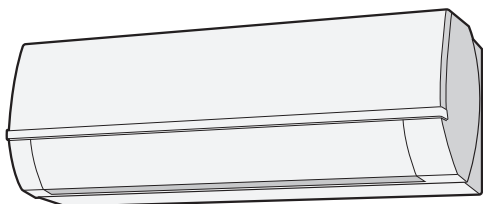


SHARP SERVICE MANUAL

S3011AYXPC8LRT



SPLIT TYPE ROOM AIR CONDITIONER

MODELS INDOOR UNIT
AY-XPC18LR
AY-XP24LR

OUTDOOR UNIT
AE-X18LR
AE-X24LR

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Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

CHAPTER 1. PRODUCT SPECIFICATIONS

[1] SPECIFICATION

1. AY-XPC18LR – AE-X18LR

ITEMS		MODEL	INDOOR UNIT AY-XPC18LR	OUTDOOR UNIT AE-X18LR
Cooling capacity (Min– Max.)		kW	5.00 (1.40 - 5.70)	
Heating capacity (Min–Max.)		kW	5.70 (1.10 - 8.00)	
Moisture removal (at cooling)☆		Liters/h	1.6	
Electrical data				
Phase			Single	
Rated frequency		Hz	50	
Rated voltage		V	220-240	
Rated current ☆ (Min - Max.)	Cool	A	6.6 (1.4 - 8.5)	
	Heat	A	6.8 (1.3 - 10.7)	
Rated input ☆ (Min - Max.)	Cool	W	1470 (260- 1890)	
	Heat	W	1510 (240 - 2380)	
Power factor ☆	Cool	%	97	
	Heat	%	97	
Compressor	Type		Hermetically sealed rotary type	
	Model		C-6RVN103H0Q	
	Oil charge		FREOALALF68SZ 600cc	
Refrigerant system	Evaporator		Louver Fin and Grooved tube type	
	Condenser		Corrugate Fin and Grooved tube type	
	Control		Expansion valve	
	Refrigerant (R410A)		1100g	
	De-Ice system		Micro computer controlled reversed systems	
Noise level (cooling)	High	dB(A)	43	49
	Low	dB(A)	39	–
	Soft	dB(A)	33	–
Fan system				
Drive			Direct drive	
Air flow quantity (cooling)	High	m ³ /min.	14.4	44.3
	Low	m ³ /min.	12.1	–
	Soft	m ³ /min.	9.5	–
Fan			Centrifugal fan	Propeller fan
Connections				
Refrigerant coupling			Flare type	
Refrigerant tube size Gas, Liquid			1/2", 1/4"	
Drain piping mm			O.D ϕ16	
Others				
Safety device			Compressor: Thermal protector	
			Fan motors: Thermal fuse	
			Fuse, Micro computer control	
Air filters			Polypropylene net (Washable)	
Net dimensions	Width	mm	1040	850
	Height	mm	325	710
	Depth	mm	222	330
Net weight		kg	12	49

NOTE: The conditions of star"☆" marked item are based on "EN14511".

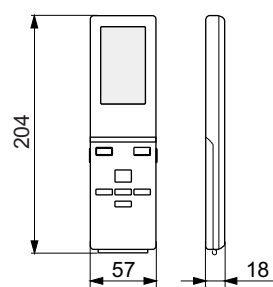
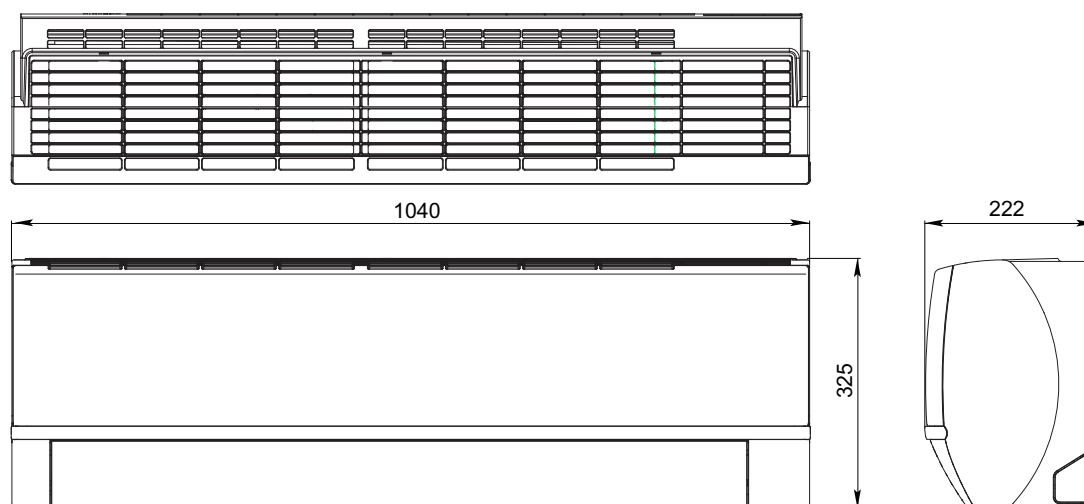
2. AY-XP24LR / AE-X24LR

ITEMS			MODEL	INDOOR UNIT AY-XP24LR	OUTDOOR UNIT AE-X24LR
Rated cooling capacity (Min– Max.)			kW	7.00 (1.50- 8.00)	
Rated heating capacity (Min–Max.)			kW	7.50 (1.10 - 9.50)	
Moisture removal (at cooling)☆			Liters/h	2.6	
Electrical data					
Phase				Single	
Rated frequency			Hz	50	
Rated voltage			V	220-240	
Rated current ☆ (Min - Max.)	Cool	A	9.6 (1.2 - 13.3)		
	Heat	A	8.9 (1.1 - 12.6)		
Rated input ☆ (Min - Max.)	Cool	W	2160 (260- 2990)		
	Heat	W	2015 (240 - 2830)		
Power factor ☆	Cool	%	98		
	Heat	%	98		
Compressor	Type		Hermetically sealed rotary type		
	Model		C-6RVN103H0Q		
	Oil charge		FREOALALF68SZ 600cc		
Refrigerant system	Evaporator		Louver Fin and Grooved tube type		
	Condenser		Corrugate Fin and Grooved tube type		
	Control		Expansion valve		
	Refrigerant (R410A)		1680g		
	De-Ice system		Micro computer controlled reversed systems		
Noise level (cooling)	High	dB(A)	47	53	
	Low	dB(A)	42	—	
	Soft	dB(A)	35	—	
Fan system					
Drive			Direct drive		
Air flow quantity (cooling)	High	m³/min.	18.4	45.6	
	Low	m³/min.	14.4	—	
	Soft	m³/min.	10.7	—	
Fan			Centrifugal fan		Propeller fan
Connections					
Refrigerant coupling			Flare type		
Refrigerant tube size Gas, Liquid			5/8", 1/4"		
Drain piping mm			O.D ϕ16		
Others					
Safety device			Compressor: Thermal protector		
			Fan motors: Thermal fuse		
			Fuse, Micro computer control		
Air filters			Polypropylene net (Washable)		
Net dimensions	Width	mm	1040	850	
	Height	mm	325	710	
	Depth	mm	222	330	
Net weight		kg	13	53	

NOTE: The conditions of star"☆" marked item are based on "EN14511".

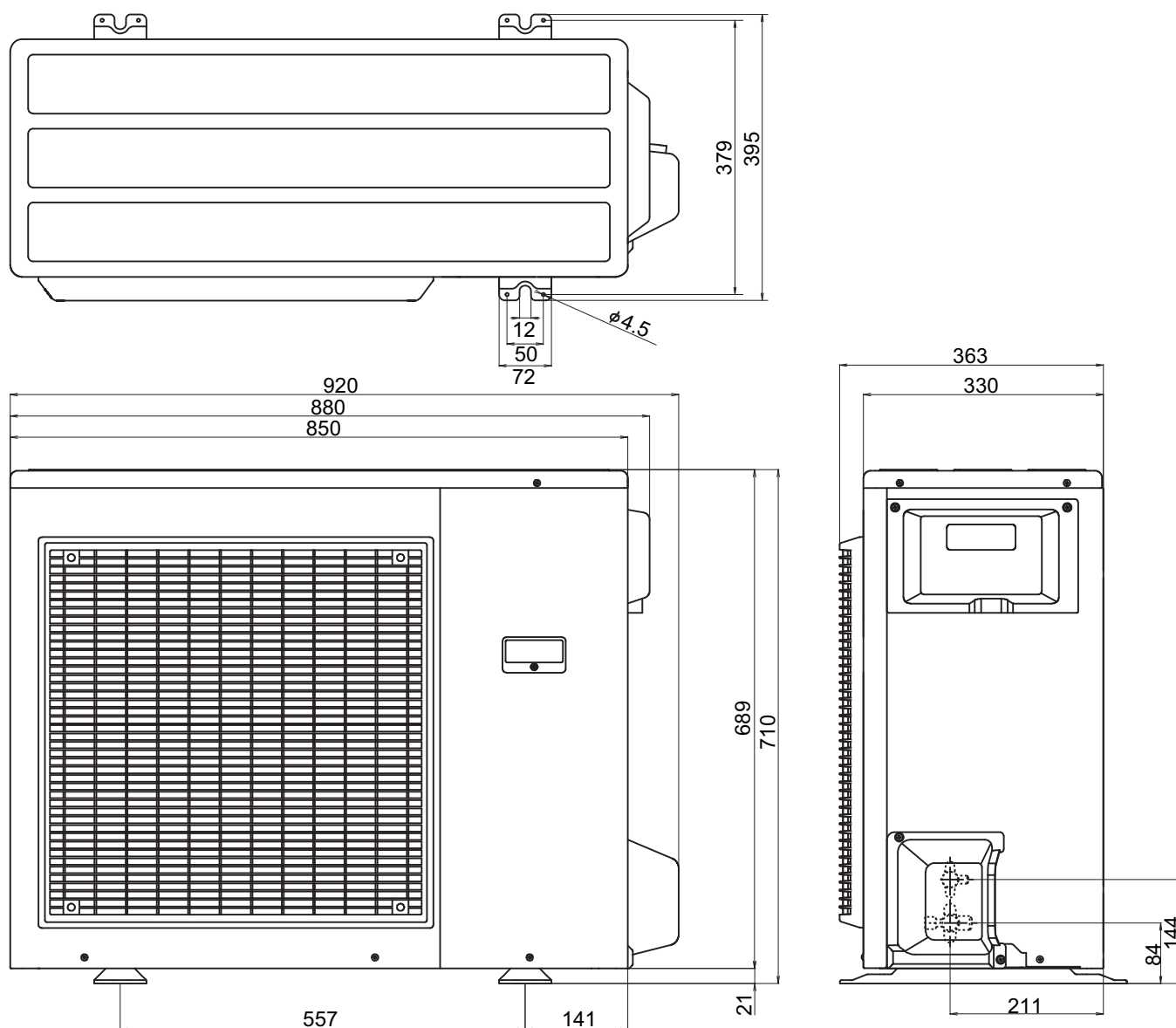
[2] EXTERNAL DIMENTIONS

1. Indoor unit

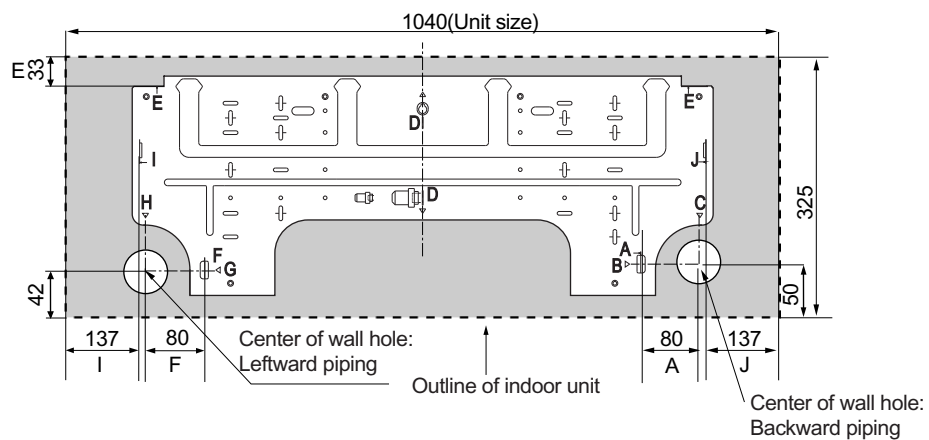


Remote controller

2. Outdoor unit

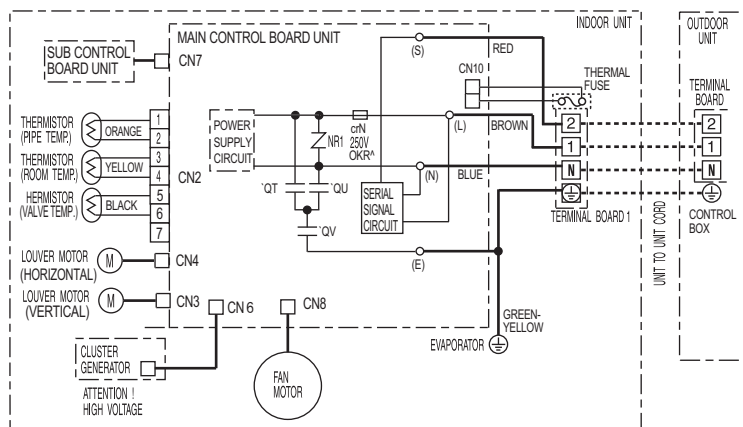


3. Installation dimension



[3] WIRING DIAGRAMS

1. Indoor unit

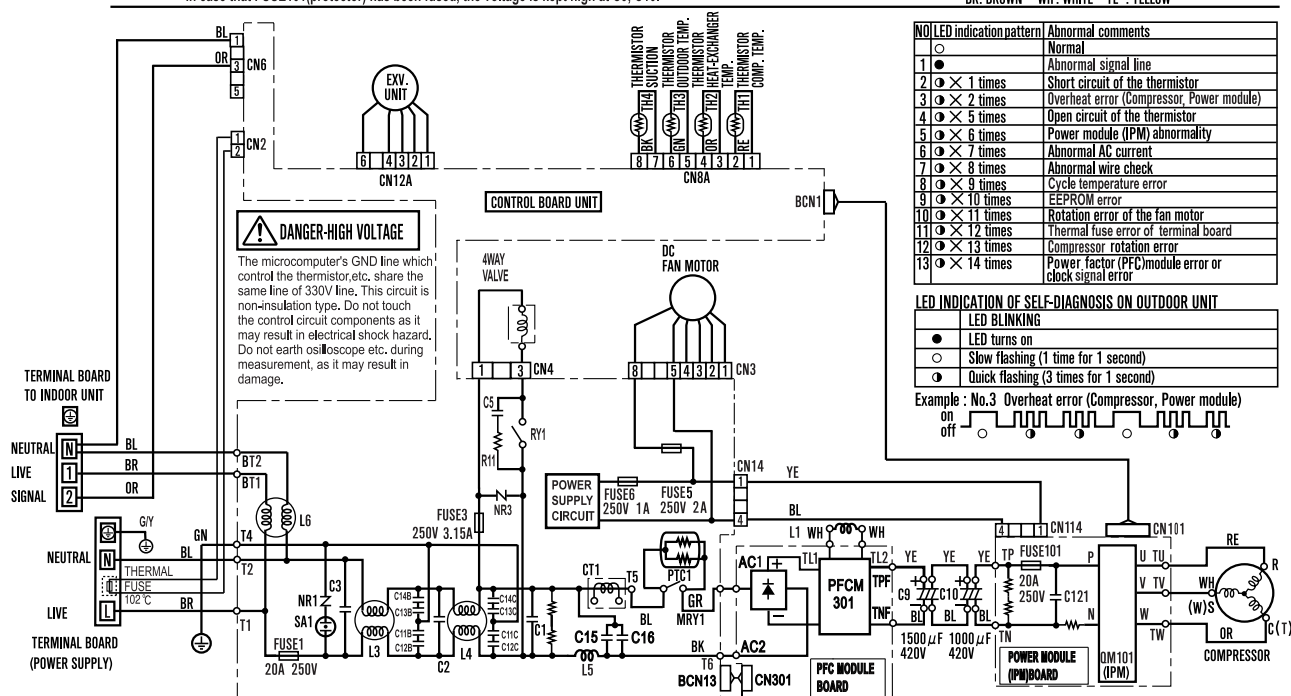


2. Outdoor unit

CC720

CAUTION The voltage is high at C9, C10 (electrolytic capacitors) on outdoor unit. For maintenance discharge at C9, C10 to prevent electric shock, in case that FUSE101 (protector) has been fused, the voltage is kept high at C9, C10.

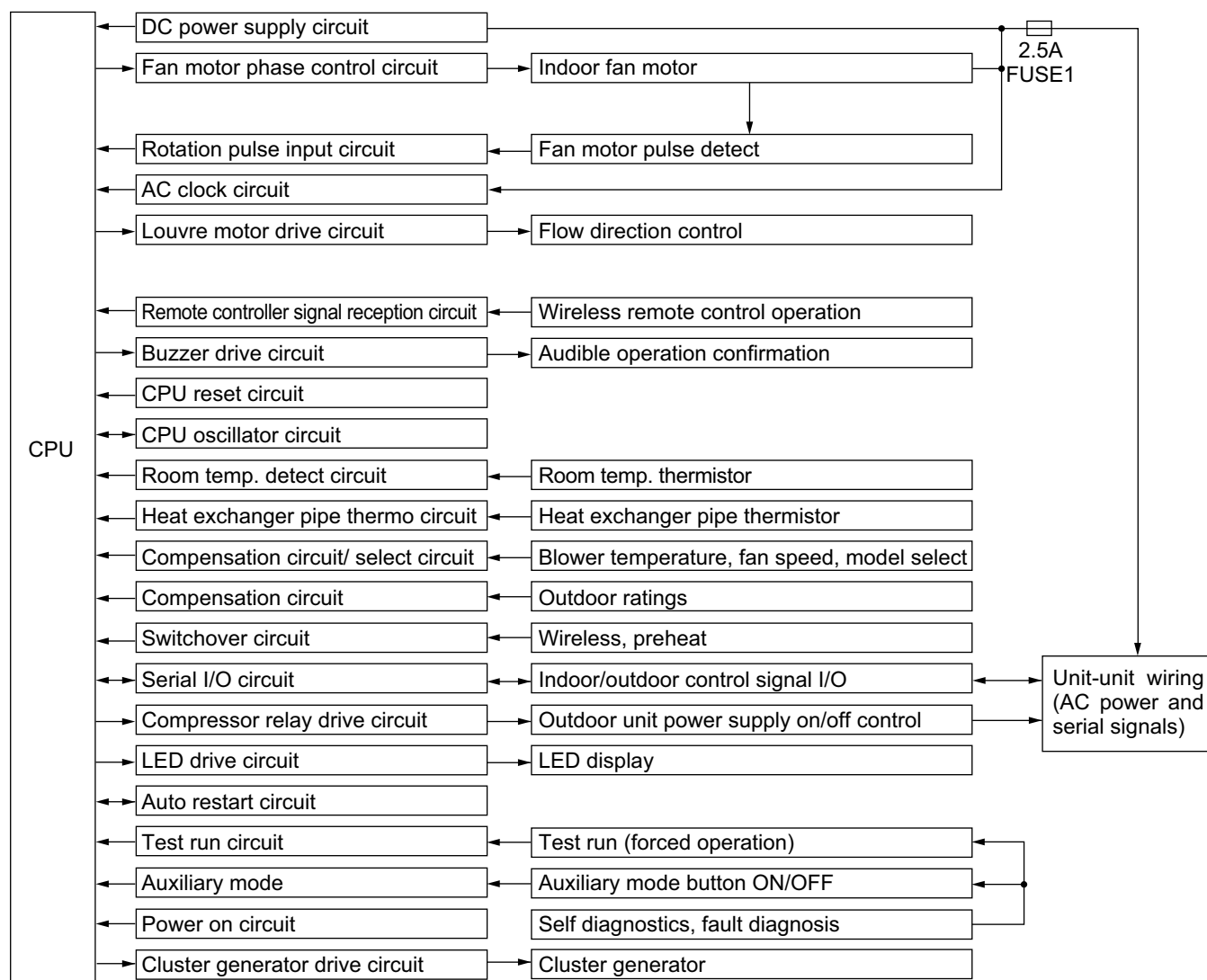
BK: BLACK GR: GRAY OR: ORANGE G/Y: GREEN/YELLOW
BL: BLUE RE: RED GN: GREEN
BR: BROWN WH: WHITE YE: YELLOW



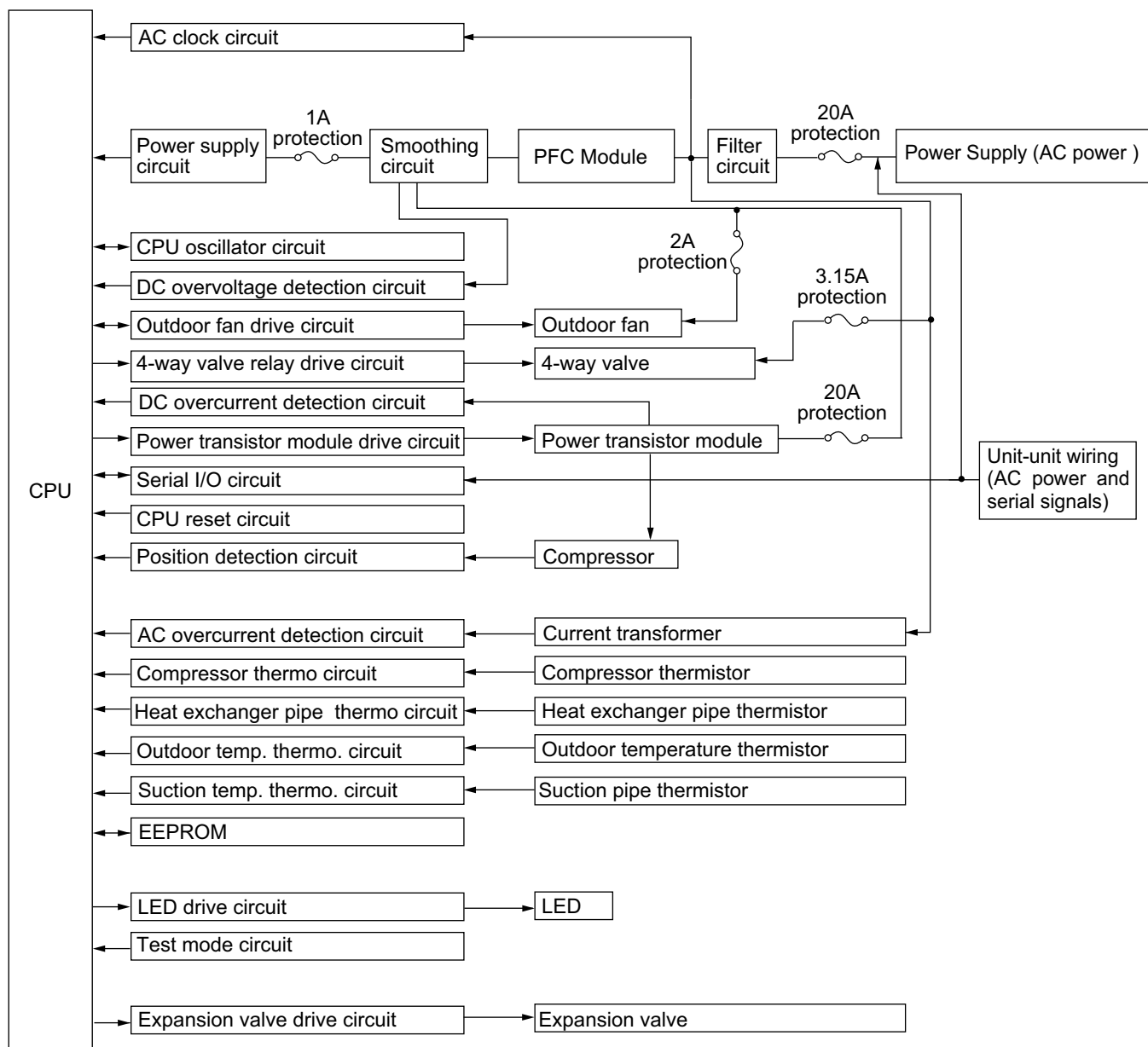
CHAPTER 2. EXPLANATION OF CIRCUIT AND OPERATION

[1] BLOCK DIAGRAMS

1. Indoor unit

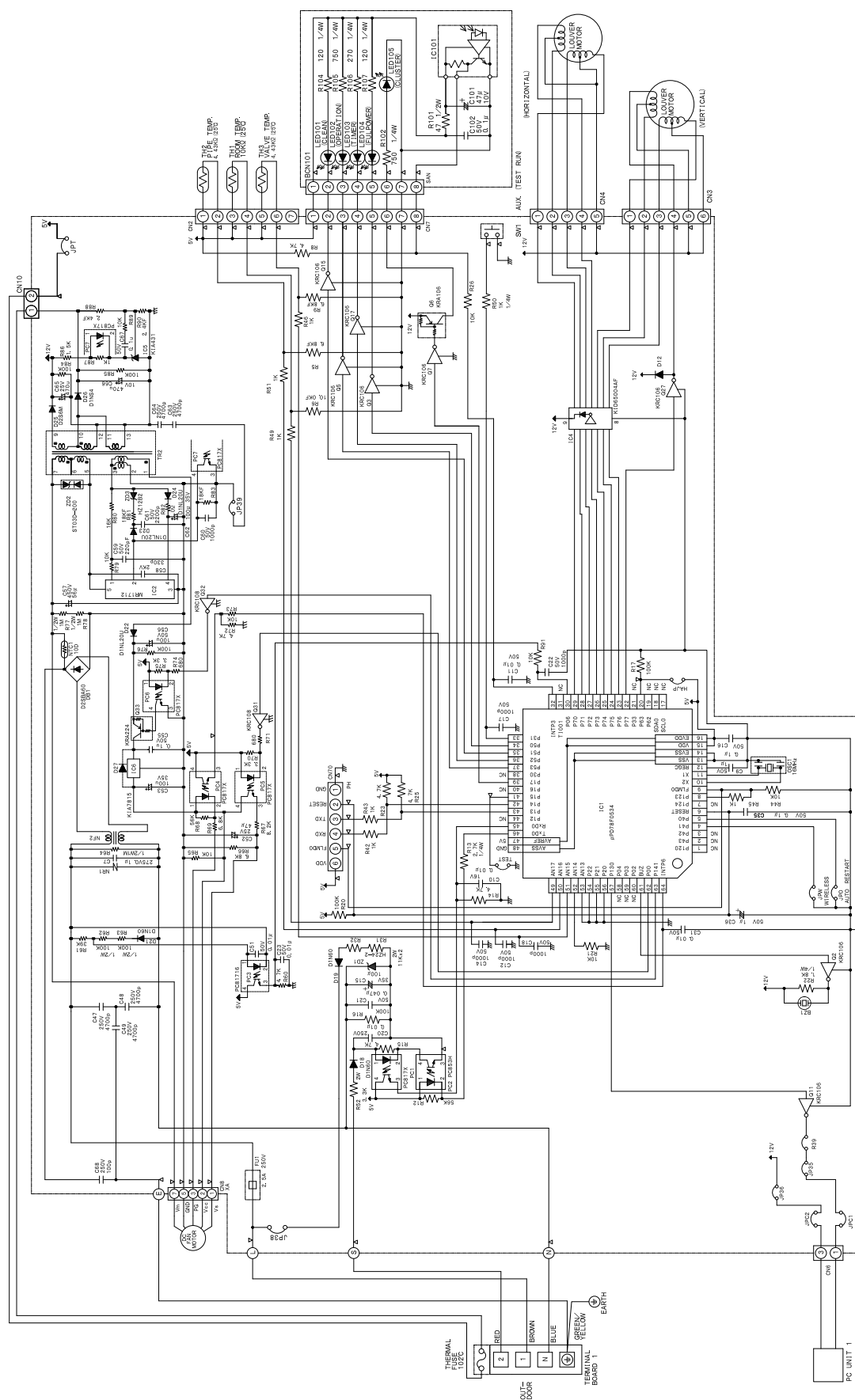


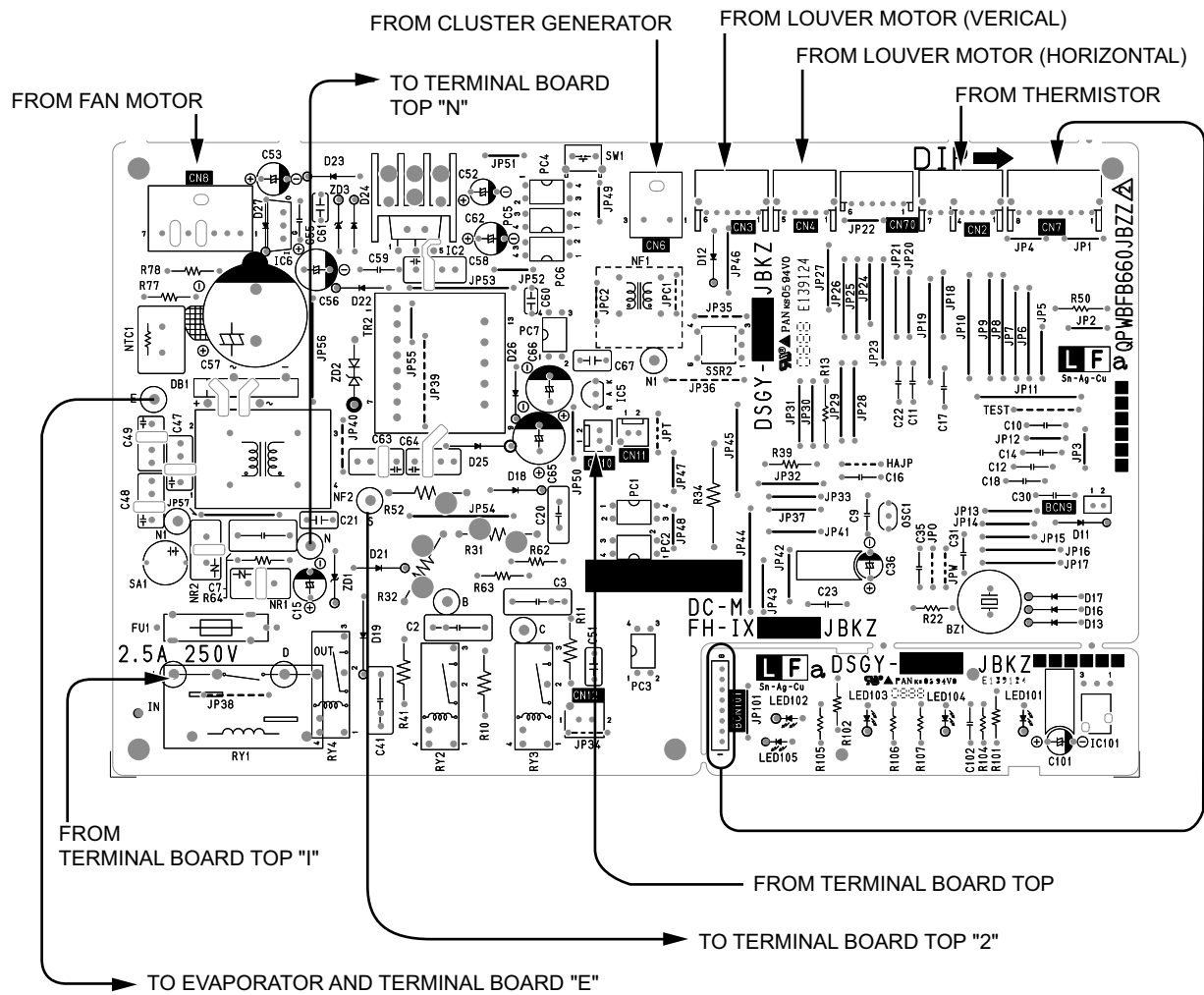
2. Outdoor unit



[2] MICROCOMPUTER CONTROL SYSTEM

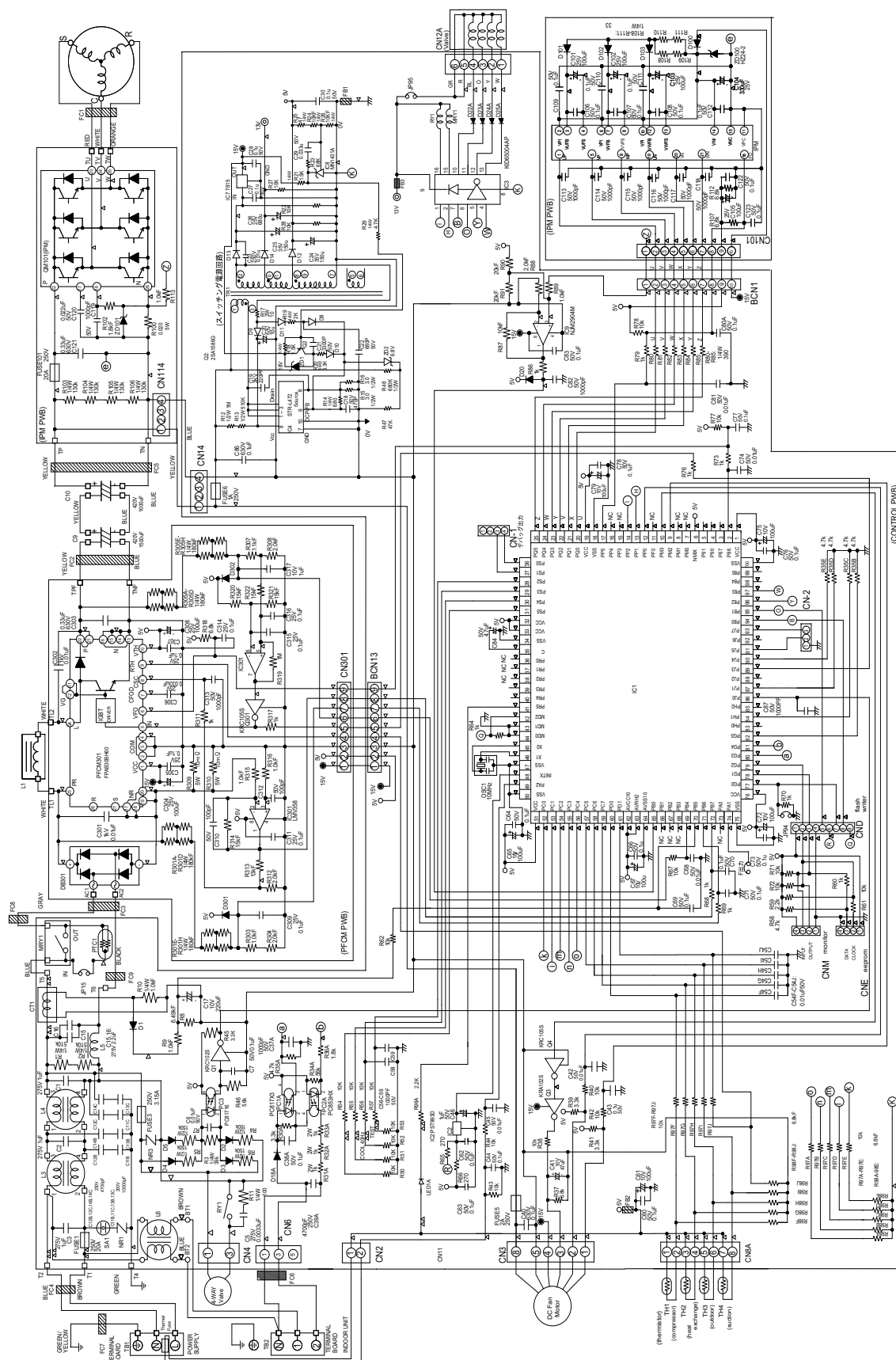
1. Indoor unit





Printed wiring board

2. Outdoor unit



Electronic control circuit diagram



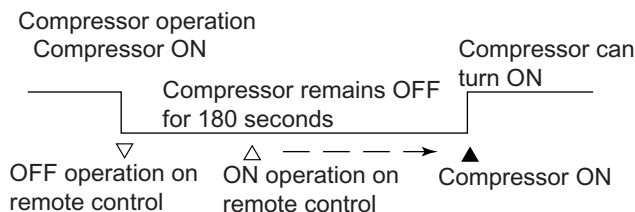
[3] FUNCTION

1. Restart control

Once the compressor stops operating, it will not restart for 180 seconds to protect the compressor.

Therefore, if the operating compressor is shut down from the remote control and then turned back on immediately after, the compressor will restart after a preset delay time.

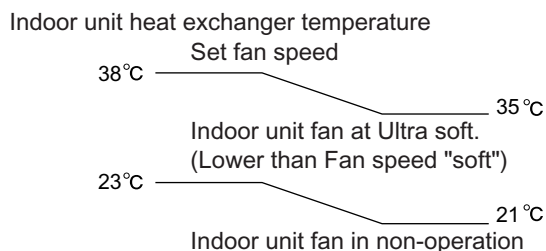
(The indoor unit will restart operation immediately after the ON switch is operated on the remote control.)



2. Cold air prevention control

When the air conditioner starts up in heating mode, the indoor unit fan will not operate until the temperature of the indoor unit heat exchanger reaches about 23°C in order to prevent cold air from blowing into the room.

Also, the indoor unit fan operates at low speed until the temperature of the indoor unit heat exchanger reaches about 38°C so that people in the room will not feel chilly air flow.



3. Indoor unit heat exchanger freeze prevention control

If the temperature of the indoor unit heat exchanger remains below 0°C for 4 consecutive minutes during cooling or dehumidifying operation, the compressor operation stops temporarily in order to prevent freezing.

When the temperature of the indoor unit heat exchanger rises to 2°C or higher after about 180 seconds, the compressor restarts and resumes normal operation.

4. Outdoor unit 2-way valve freeze prevention control

If the temperature of the outdoor unit 2-way valve remains below 0°C for 10 consecutive minutes during cooling or dehumidifying operation, the compressor operation stops temporarily in order to prevent freezing.

When the temperature of the 2-way valve rises to 10°C or higher after about 180 seconds, the compressor restarts and resumes normal operation.

5. Indoor unit overheat prevention control

During heating operation, if the temperature of the indoor unit heat exchanger exceeds the indoor unit heat exchanger overheating prevention temperature (about 45 to 54°C) which is determined by the operating frequency and operating status, the operating frequency is decreased by about 4 to 15 Hz. Then, this operation is repeated every 60 seconds until the temperature of the indoor unit heat exchanger drops below the overheating protection temperature.

Once the temperature of the indoor unit heat exchanger drops below the overheating protection temperature, the operating frequency is increased by about 4 to 10 Hz every 60 seconds until the normal operation condition resumes.

If the temperature of the indoor unit heat exchanger exceeds the overheating protection temperature for 60 seconds at minimum operating frequency, the compressor stops operating and then restarts after about 180 seconds, and the above mentioned control is repeated.

6. Outdoor unit overheat prevention control

During cooling operation, if the temperature of the outdoor unit heat exchanger exceeds the outdoor unit heat exchanger overheating prevention temperature (about 55°C), the operating frequency is decreased by about 4 to 15 Hz. Then, this operation is repeated every 60 seconds until the temperature of the outdoor unit heat exchanger drops to about 54°C or lower.

Once the temperature of the outdoor unit heat exchanger drops to about 54°C or lower, the operating frequency is increased by about 4 to 10 Hz every 60 seconds until the normal operation condition resumes.

If the temperature of the outdoor unit heat exchanger exceeds the outdoor unit heat exchanger overheating protection temperature for (120 sec.: outdoor temperature ≥ 40°C, 60 sec.: outdoor temperature < 40°C) at minimum operating frequency, the compressor stops operating and then restarts after about 180 seconds, and the above mentioned control is repeated.

7. Compressor overheating prevention control

If the temperature of the compressor exceeds the compressor overheating prevention temperature (110°C), the operation frequency is decreased by about 4 to 10 Hz. Then, this operation is repeated every 60 seconds until the temperature of the compressor drops below the overheating protection temperature (100°C).

Once the temperature of the compressor drops below the overheating protection temperature, the operating frequency is increased by about 4 to 10 Hz every 60 seconds until the normal operation condition resumes.

If the temperature of the compressor exceeds the overheating protection temperature (for 120 seconds in cooling operation or 60 seconds in heating operation) at minimum operating frequency, the compressor stops operating and then restarts after about 180 seconds, and the above mentioned control is repeated.

8. Startup control

When the air conditioner starts in the cooling or heating mode, if the room temperature is 2°C higher than the set temperature (in cooling operation) or 3.5°C lower (in heating operation), the air conditioner operates with the operating frequency at maximum. Then, when the set temperature is reached, the air conditioner operates at the operating frequency determined by fuzzy logic calculation, then enters the normal control mode after a while.

9. Peak control

If the current flowing in the air conditioner exceeds the peak control current (see the table below), the operation frequency is decreased until the current value drops below the peak control current regardless of the frequency control demand issued from the indoor unit based on the room temperature.

	Peak control current	
	Cooling operation	Heating operation
AY-XPC18LR	Approx. 9.5 A	Approx. 13.0 A
AY-XP24LR	Approx. 15.0 A	Approx. 15.0 A

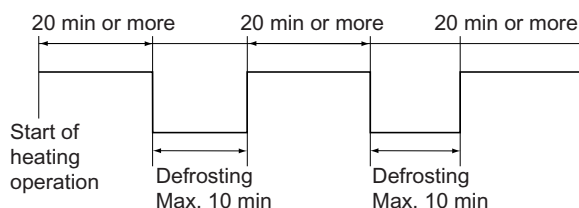
10. Outdoor unit fan delay control

The compressor stops immediately after cooling, dehumidifying or heating operation is shut down, but the outdoor unit fan continues operation for 50 seconds before it stops.

11. Defrosting

11.1. Reverse defrosting

The defrost operation starts when the compressor operating time exceeds 20 minutes during heating operation, as shown below, and the outside air temperature and the outdoor unit heat exchanger temperature meet certain conditions. When the defrost operation starts, the indoor unit fan stops. The defrost operation stops when the outdoor unit heat exchanger temperature rises to about 10°C or higher or the defrosting time exceeds 10 minutes.



12. ON timer

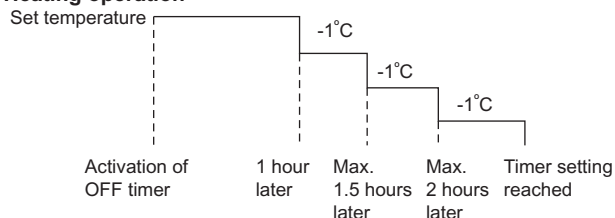
The ON timer can be activated by pressing the ON timer button. When the ON timer is activated, the operation start time is adjusted based on fuzzy logic calculations 1 hour before the set time so that the room temperature reaches the set temperature at the set time.

13. OFF timer

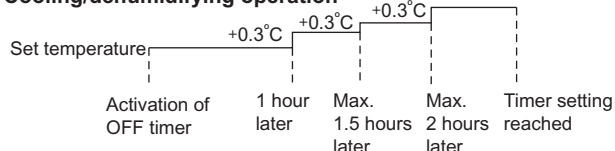
The OFF timer can be activated by pressing the OFF timer button. When the OFF timer is set, the operation stops after the set time.

When this timer is set, the compressor operating frequency lowers for quieter operation, and the room temperature is gradually varied after one hour (reduced 1°C three times (max. 3°C) in heating, or increased 0.3°C three times (max. 1°C) in cooling or dehumidifying operation) so that the room temperature remains suitable for comfortable sleeping.

Heating operation



Cooling/dehumidifying operation



14. Power ON start

If a jumper cable is inserted in the location marked with HAJP on the indoor unit control printed circuit board (control PCB), connecting the power cord to an AC outlet starts the air conditioner in either cooling or heating mode, which is determined automatically by the room temperature sensor.

When a circuit breaker is used to control the ON/OFF operation, please insert a jumper as described above.

15. Self-diagnostic malfunction code display

15.1. Indoor unit

1) When a malfunction is confirmed, all relays turn off and a flashing operation LED timer LED. Plasmacluster LED is displayed to indicate the type of malfunction.

When the air conditioner is in non-operating condition, holding down AUX button for more than 5 seconds activates the malfunction code display function.

The operation continues only in the case of a serial open-circuit, and the main relay turns off after 30 seconds if the open-circuit condition remains.

In the case of a serial short-circuit, the air conditioner continues operating without a malfunction code display, and the main relay turns off after 30 seconds if the short-circuit condition remains.

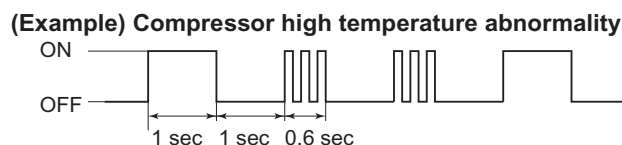
The malfunction information is stored in memory, and can be recalled later and shown on display.

2) The self-diagnostic memory can be recalled and shown on the display by stopping the operation and holding down AUX button for more than 5 seconds.

(For details, refer to the troubleshooting section.)

15.2. Outdoor unit

If a malfunction occurs, LED1 on the outdoor unit flashes in 0.2-second intervals as shown below.



16. AUXILIARY MODE

Use this mode when the remote control is not available.

To turn on, lift the open panel of the indoor unit and press the AUX button.

- The unit starts operating the AUTO mode.
- The fan speed and temperature setting are set to AUTO.

To turn off, press the AUX button again.

17. Airflow control

17.1. VERTICAL AIR FLOW DIRCTION

- 1) Press the SWING button (↖) on the remote control once.
 - The vertical air flow louvre will swing.
- 2) Press the SWING button (↖) again when the vertical air flow louvre is at the desired position.
 - The adjusted position will be memorized and will be automatically set to the same position when operated the next time.

17.2. HORIZONTAL AIR FLOW DIRCTION

- 1) Press the SWING button (↗) on the remote control once.
 - The horizontal air flow louvre will swing.
- 2) Press the SWING button (↗) again when the horizontal air flow louvre is at the desired position.
 - The adjusted position will be memorized and will be automatically set to the same position when operated the next time.

CAUTION: Never attempt to adjust the louvres manually.

- Manual adjustment of the louvres can cause the unit to malfunction.
- When the vertical air flow louvre is positioned at the lowest position in the COOL or DRY mode for an extended period of time, condensation may result.

CAUTION: Never attempt to adjust the louvres manually.

- Manual air flow on the louvres can cause the unit to malfunction.
Position in the COOL or DRY mode for an extended period of time,
- When the air flow air flow louvre is positioned at the lowest condensation may result.

18. COANDA AIR FLOW

Press the COANDA AIR FLOW button during cooling or dry operation when you do not want to feel cold air.

Vertical air flow louvre is set obliquely upward to deliver cool air to the ceiling.

Press the button during heating operation. Vertical air flow louvre is set downward to deliver the warm air down to the floor and warm you.

During operation, press the COANDA AIR FLOW button.

- The remote control will display “”

TO CANCEL

Press the COANDA AIR FLOW button again.

- NOTE:**
- The COANDA AIR FLOW setting is cancelled When you press FULL POWER button while COANDA AIR FLOW is set.
 - If you want AIR FLOW operation in FULL POWER mode, press COANDA AIR FLOW button during FULL POWER operation.

19. Difference relating to set temperature

Manual mode		
Cooling	Heating	Dehumidifying
Can be changed between 18°C and 32°C using remote control.	Can be changed between 18°C and 32°C using remote control.	Automatic setting. Can be changed within ±2°C.

20. Dehumidifying operation control

If the room temperature is 26°C or higher when dehumidifying operation starts, the dehumidifying operation provides a low cooling effect in accordance with the room temperature setting automatically determined based on the outside air operation. (The setting value is the same as the set temperature for cooling operation in the auto mode.)

If the room temperature is lower than 26°C when dehumidifying operation starts, the dehumidifying operation minimizes the lowering of the room temperature.

21. FULL POWER Operation

In this operation, the air conditioner works at the maximum power to make the room cool or warm rapidly.

During operation, press the FULL POWER button.

- The remote control will display “”.
- The temperature display will go off.
- The green FULL POWER lamp on.
- The unit will light up.

TO CANCEL

Press the FULL POWER button again.

- The FULL POWER operation will also be cancelled when the operation mode is changed, or when the unit is turned off.
- The green FULL POWER lamp on the unit will turn off.

- NOTE:**
- The air conditioner will operate at “Extra HIGH” fan speed for 5 minutes, and then shift to “HIGH” fan speed.
 - You can not set the temperature or fan speed during the FULL POWER operation.
 - To turn off the FULL POWER lamp, press the DISPLAY button.

22. Self Clean operation

Heating or Fan operation and Plasmacluster operation are performed simultaneously.

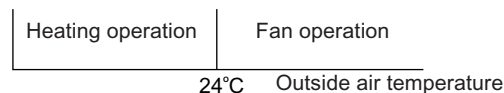
The judgment of whether Heating or Fan operation is used is based on the outside air temperature at 3 minutes after the start of internal cleaning. But the multi use of AYXPC18LR is only Fan operation.

The operation stops after 40 minutes.

- During this operation the vertical air flow louver moves and stays two positions.

It turns to the lower direction and stays for 30 minutes.

Next moves upward and stays for 10 minutes.



23. Plasmacluster Ion function

Plasmacluster Ions released into the room will reduce some airborne mold.

Press the PLASMACLUSTER button during operation,

- The Plasmacluster function is operated together with the air conditioner operation.

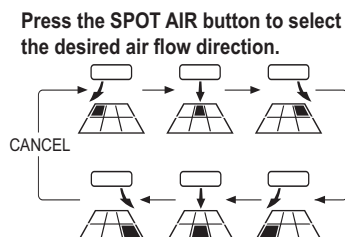
Press the PLASMACLUSTER button when the unit is not operating.

- The Plasmacluster function is operated in fan only mode. The mode symbol of remote control will go off and the fan speed cannot be set to AUTO.

NOTE: Use of the PLASMACLUSTE operation will be memorized, and it will be activated the next time you turn on the unit.

24. SPOT AIR operation

The louvers are adjusted so that air flow is delivered to the desired area.



- NOTE:
- If you want the SPOT AIR setting in the FULL POWER mode, press the SPOT AIR button during the FULL POWER operation.
 - The COANDA AIRFLOW setting and the SPOT AIR setting can not be used together.

25. Hot keep

If the room temperature is in the Hot keep (1) or Hot keep (2) zone during heating, the compressor is turned on and off to prevent overheating. The fan goes off 30 seconds after the compressor goes off.

(AY-XPC18LR: MULTI USE)

ZONE	COMPRESSOR INTER-MITTENT TIME		FAN
Hot keep (1) (When room temperature reaches setting temperature)	Up to 3 times	3 min. On 3 min. Off	Same as compressor
	After 4th	3 min. On 6 min. Off	
Hot keep (2) (Room temperature becomes higher 1°C or more than setting temperature)	Up to 1st	3 min. On 6 min. Off	The fan continues to repeat "3 min. on - 8 min. off".
	After 2nd	Off	

(AY-XPC18LR: SINGLE USE OR AY-XP24LR)

ZONE	COMPRESSOR INTER-MITTENT TIME		FAN
Hot keep (1) (When room temperature reaches setting temperature)	Up to 3 times	3 min. On 3 min. Off	Same as compressor
	After 4th	6 min. On 3 min. Off	
Hot keep (2) (Room temperature becomes higher 1°C or more than setting temperature)	Up to 1st	6 min. On 8 min. Off	The fan continues to repeat "6 min. on - 8 min. off".
	After 2nd	Off	

26. Winter cool

Cooling operation is available during the winter season by the built in winter cool function.

Lower limit of outdoor temperature range is -10°C.

When the outside air temperature is low, the outdoor unit fan operates at slower speed.

NOTE: Built-in protect device may work when outdoor temperature falls below 21°C, depending on conditions.

27. Auto restart

When power failure occurs, after power is recovered, the unit will automatically restart in the same setting which were active before the power failure.

27.1. Operating mode (Cool, Heat, Dry)

- Temperature adjustment (within 2°C range) automatic operation
- Temperature setting
- Fan setting
- Air flow direction
- Power ON/OFF
- Automatic operation mode setting
- Swing louvre
- Plasmacluster mode

27.2. Setting not memorized

- Timer setting
- Full power operation setting
- Self clean operation

27.3. Disabling auto restart function

By removing (cutting) jumper ○ (JP ○) on the printed circuit board (PCB), the auto restart function can be disabled.

28. Energy Saving Operation

28.1. Cool/Dry Operation

By pressing ENERGY SAVE button during Cool/Dry operation, the set temperature will vary with 1/f fluctuation. 1/f fluctuation resembles fluctuation existing in nature, and is said that it gives relaxation.(1/f Fuzzy Logic) By varying the set temperature in +1°C ~ -0.33°C range following 1/f fluctuation, the rise in set temperature will correspond to +0.5°C in calculation. Since this air conditioner model is inverter type, compressor output will also vary in the same manner. As a result this will help saving electricity cost.

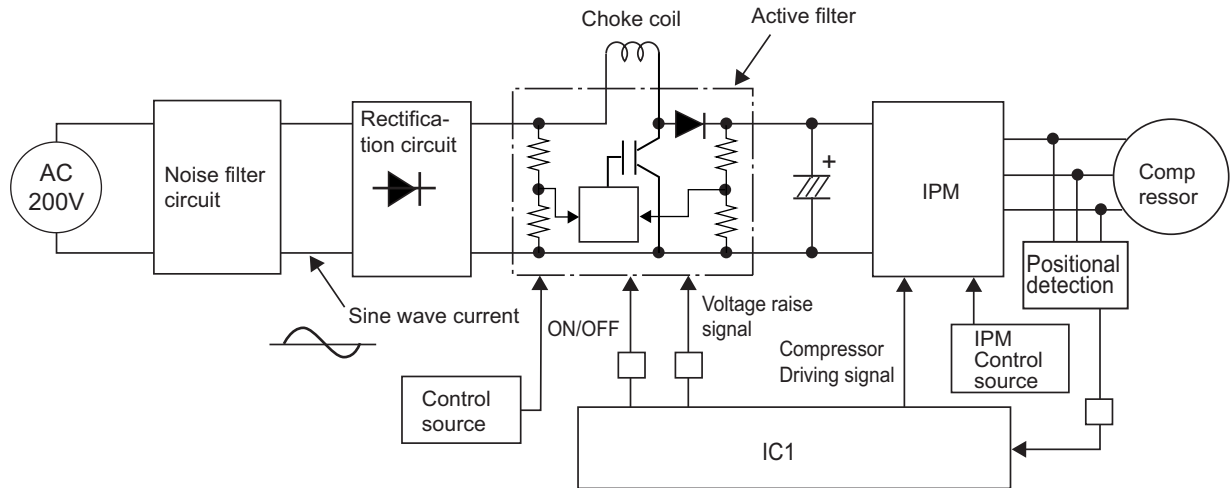
28.2. Heat Operation

By pressing ENERGY SAVE button during Heat operation, set temperature will vary in -2°C ~ +1°C range, and will correspond to lowering the set temperature -1°C in calculation.

NOTE: When used in combination with Full Power control, priority is given to the latter pushed button's control.

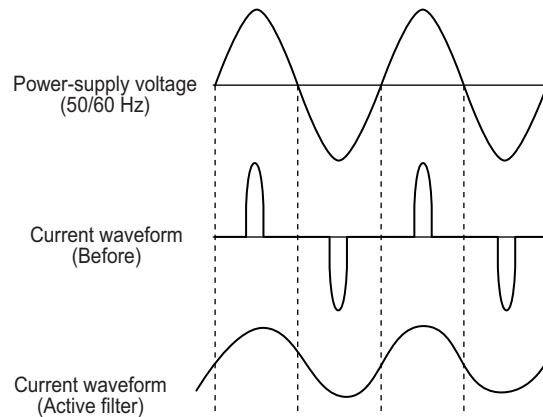
29. PFC MODULE CIRCUIT

These model's circuit uses PFCM (Power Factor Correction Module) and IPM as the figure below for the high efficiency operation of compressor.



29.1. PFC Module

In the case the direct current is obtained by the diode bridge and smooth capacitor from the commercial power source, the current wave shape will be the pulse shape at the peak of the voltage wave shape as shown in the figure below. For this reason, the harmonic current will be generated and at the same time the power factor will be deteriorated. While monitoring the AC input voltage in the control circuit, in order to be the same phase and wave shape as this voltage wave shape, IGBT is made ON/OFF by the carrier frequency of approximately 20 kHz. By adoption of this PFC Module, the current wave shape can be made to the sine wave synchronized to the commercial power source and the power factor can be made to almost 99%. As a result of this, reactor can be disused. PFC Module works for the improvement of power factor and as the countermeasures for the harmonic current.



29.2. PFC Module Voltage Raise Circuit

The IGBT in the figure below is the switching transistor of the PFC Module. By adding ON signal to the gate of IGBT from the control IC, IGBT turns ON and the collector current I_c flows. This current flows from the + side of the diode bridge DB to the Choke coil, the - side of the diode bridge DB through IGBT from the Choke coil L. At this time, energy is stored in the choke coil L. Next, when gate signal of IGBT turned OFF, IGBT will be turned OFF and the energy stored in L during the ON time of IGBT will be discharged through the diode D, electrolytic capacitor C, load, primary side and the + side of DB. Assuming the input voltage of PFC Module (voltage between + and - of DB) as E_i , the output voltage (voltage at the both ends of smooth capacitor) as V_o , switching cycle of IGBT as T and ON time of IGBT as t_{on} , the voltage between collector emitter of IGBT V_s will be as follows;

$$V_s = 0 \text{ (during ON of IGBT: } t_{on})$$

$$V_s = V_o \text{ (during OFF of IGBT: } T - t_{on})$$

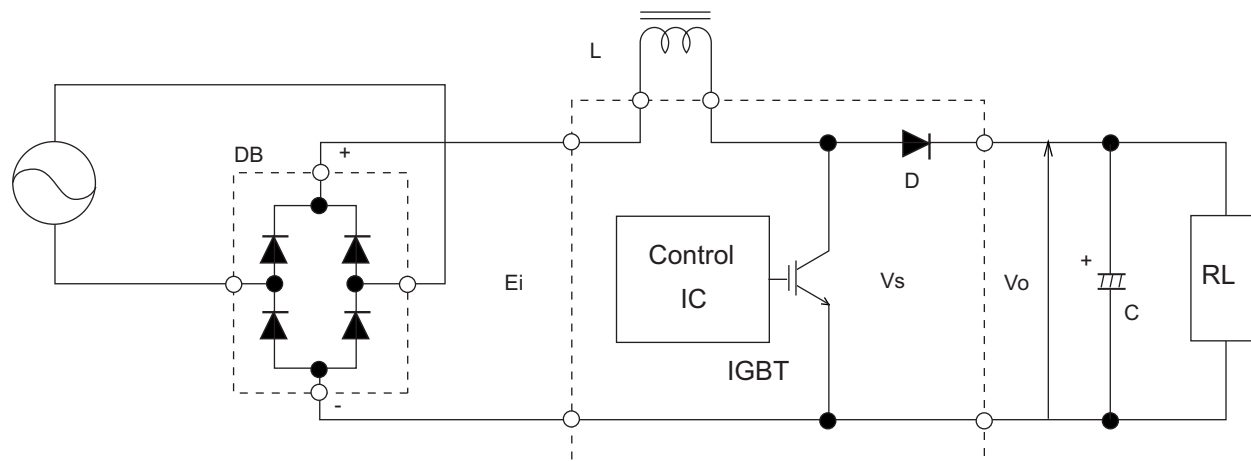
Here, assuming no loss in L and IGBT, average value of V_s turns equal to E_i ,

$$E_i = (T - t_{on})/T \times V_o$$

Therefore

$$V_o = T/(T - t_{on}) \times E_i$$

As t_{on} is a smaller value than T, output voltage V_o will be higher than input voltage E_i .



29.3. PFC Module Driving Electronics Circuit

The PFC Module circuit operates continuously while the compressor is driving.

The microcomputer detects output DC voltage of the PFC Module circuit with pin 69, and controls to keep the DC voltage to be the target value.

The microcomputer controls so that the input AC current wave form will become a sine wave detecting the input AC voltage of the PFC Module circuit with pin 71 and detecting AC current wave form with pin 72.

The microcomputer calculates to do above mentioned controls, and outputs the PFC signal (ON/OFF duty control of 20kHz) from pin 89. The PFC signal is input to IN of PFCM, and the PFC Module circuit operates.

29.4. Output voltage of PFC Module

The output DC voltage of the PFC Module circuit changes within the range from 310V to 370V in proportion to the voltage value of the power supply. When the power supply voltage is AC 230V, the output DC voltage is DC 330V.

CHAPTER 3. FUNCTION AND OPERATION OF PROTECTIVE PROCEDURES

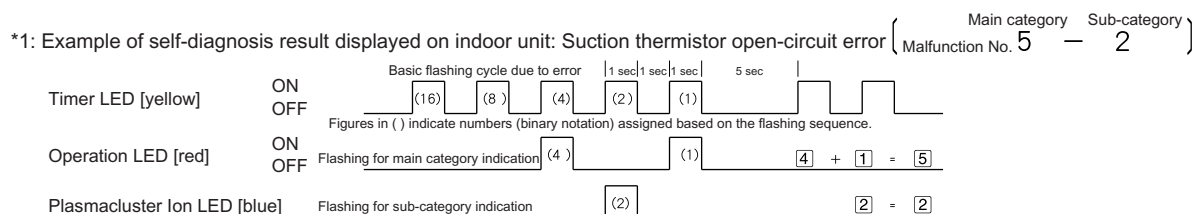
[1] TROUBLESHOOTING GUIDE

1. SELF-DIAGNOSIS FUNCTION AND DISPLAY MODE

- 1) To call out the content of the self-diagnosis memory, hold down the emergency operation button for more than five seconds when the indoor unit is not operating.
 - a) According to the content of the self-diagnosis memory, the Operation LED (main category) and the Plasmacluster Ion LEDs (sub-category) flash in sync with the Timer LED on the indoor unit.
 - b) In the event a complete shutdown occurs due to a malfunction, the Operation LED (red), Timer LED (yellow) and Plasmacluster Ion LED (blue) flash to indicate the general information of the generated malfunction.
 - c) If the power cord is unplugged from the AC outlet or the circuit breaker is turned off, the self-diagnosis memory loses the stored data.
- 2) Display of detailed self-diagnosis result with main category and sub-category indications

When malfunction information is called out, the main category and sub-category of the self-diagnosis result are indicated by the Operation, Timer, and Plasmacluster Ion LEDs on the indoor unit.

- * 1: Example of self-diagnosis result displayed on indoor unit: Suction thermistor open-circuit error

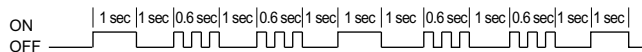


- * 2: The self-diagnosis display function of the outdoor unit indicates the error information by flashing LED1 on the outdoor unit according to the content of self-diagnosis.

The self-diagnosis display function of the outdoor unit is active only for about 3 to 10 minutes after self-diagnosis is performed during operation, and the display returns to normal condition after this display period.

The content of self-diagnosis cannot be called out by the self-diagnosis display function of the outdoor unit.

Example of self-diagnosis display on outdoor unit : Compressor high-temperature abnormality



- * 3: The content of diagnosis is transferred to the indoor unit via serial communication, but it does not trigger a complete shutdown operation.

Malfunction diagnosis indications, descriptions, inspection methods and remedies

⊗ : Flashes in 2-sec intervals (normal) ● : On × : Off ○ : Flashes 3 times in 0.2-sec intervals

Status of indoor/ indoor/ outdoor units	Indication by LED on outdoor unit	Indication by operation lamp on indoor unit						Malfunction No.		Content of diagnosis		Inspection location/method	Remedy
		Lighting pattern at the time of timer lamp lighting 						Main category	Sub category	Main category	Sub category		
Indoor/ outdoor units in operation	Normal flashing							0	0		Normal		
Indoor/ outdoor units in complete shutdown	1 time							1	0	Outdoor unit thermostat short-circuit	Heat exchanger thermistor short-circuit error	(1) Measure resistance of the outdoor unit thermistor. (2) Check the lead wire of the outdoor unit thermistor for torn sheath and short-circuit. (3) No abnormality found in above inspections (1) and (2).	(1) Replace the outdoor unit thermistor assembly. (2) Replace the outdoor unit thermistor assembly. (3) Replace the outdoor unit control PWB assembly.
									1		Outdoor temperature thermistor short circuit error		
									2		Suction thermistor short circuit error		
Indoor/ outdoor units in complete shutdown	2 time							2	0	Cycle temperature	Compressor high temperature error	(1) Check the outdoor unit air outlet for blockage. (2) Check if the power supply voltage is 216 V or higher at full power. (3) Check the pipe connections for refrigerant leaks. (4) Measure resistance of the outdoor compressor thermistor. (TH1: Approx. 53 kΩ at 25°C) (5) Check the expansion valve for proper operation.	(1) Ensure unobstructed air flow from the outdoor unit air outlet. (2) Connect power supply of proper voltage. (3) Charge the specified amount of refrigerant. (4) Replace the outdoor unit compressor thermistor assembly. (5) Replace the expansion valve coil, expansion valve or outdoor unit control PWB assembly.
									1		Temporary stop due to compressor discharge overheat *3	(Temporary stop for cycle protection)	
									2		Temporary stop due to outdoor unit heat exchanger overheat *3	(Temporary stop for cycle protection)	
									3		Temporary stop due to indoor unit heat exchanger overheat *3	(Temporary stop for cycle protection)	
									4		Temporary stop due to IPM overheat *3	(Temporary stop for parts protection)	
Indoor unit in operation Outdoor unit in temporary stop	3 time								5		IPM high temperature error	(1) Measure resistance of the heat sink thermistor.	(1) Replace the heat sink thermistor.
								3	0	Dry operation	Temporary stop due to dehumidifying operation *3	(Temporary stop for cycle protection)	

*3: The content of diagnosis is transferred to the indoor unit via serial communication, but it does not trigger a complete shutdown operation. Number of repetition °: No complete shutdown

⊗ : Flashes in 2-sec intervals (normal) ● : On ✕ : Off ○ : Flashes 3 times in 0.2-sec intervals

Status of indoor/outdoor units	Indication by LED on outdoor unit	Indication by operation lamp on indoor unit				Malfunction No.		Content of diagnosis		Inspection location/method	Remedy
		Lighting pattern at the time of timer lamp lighting				Main category	Sub category	Main category	Sub category		
Indoor/outdoor units in complete shutdown	○ 5 time	●	●	●	●	5	0	Outdoor unit thermistor short-circuit	Heat exchanger thermistor open-circuit error	(1) Check the connector of the outdoor unit thermistor for secure installation. (2) Measure resistance of the outdoor thermistor. (3) Check the lead wire of the outdoor unit thermistor. (4) No abnormality found in above inspections (1) through (3).	(1) Correct the installation. (2) Replace the outdoor unit thermistor assembly. (3) Replace the outdoor unit thermistor assembly. (4) Replace the outdoor unit control PWB assembly.
		●	●	●	●		1		Outdoor temperature thermistor open circuit error		
		●	●	●	●		2		Suction thermistor open-circuit error		
		●	●	●	●		4		Discharge thermistor open circuit error		
	○ 6 time	●	●	●	●	6	0	Outdoor unit DC error	DC overcurrent error	(1) IPM continuity check (2) Check the IPM and heat sink for secure installation. (3) Check the outdoor unit fan motor for proper rotation. (4) No abnormality found in above inspections (1) through (3). (5) No abnormality found in above inspections (1) through (4).	(1) Replace the outdoor unit control PWB assembly. (2) Correct the installation (tighten the screws). Apply silicon grease. (3) Replace the outdoor unit fan motor. (4) Replace the outdoor unit control PWB assembly. (5) Replace the compressor.
		●	●	●	●	7	0	Outdoor unit AC error	AC overcurrent error	(1) Check the outdoor unit air outlet for blockage. (2) Check the outdoor unit fan for proper rotation.	(1) Ensure unobstructed air flow from the outdoor unit air outlet. (2) Check the outdoor unit fan motor.
		●	●	●	●		1		AC overcurrent error in OFF status	(1) IPM continuity check	(1) Replace the outdoor unit control PWB assembly.
		●	●	●	●		2		AC maximum current error	(1) Check the outdoor unit air outlet for blockage. (2) Check the outdoor unit fan for proper rotation.	(1) Ensure unobstructed air flow from the outdoor unit air outlet. (2) Check the outdoor unit fan motor.
	○ 7 time	●	●	●	●		3		AC current deficiency error	(1) Check if there is an open-circuit in the secondary winding of the current transformer of the outdoor unit control PWB. (2) Check if the refrigerant volume is abnormally low. (3) Check if the refrigerant flows properly.	(1) Replace the outdoor unit control PWB assembly. (2) Charge the specified amount of refrigerant. (3) Correct refrigerant dogs. (2-way valve, 3-way valve, pipe, expansion valve)
		●	●	●	●	9	0	Outdoor unit cooling/heating switchover	Thermistor installation error or 4-way valve error	(1) Check to make sure outdoor unit thermistor TH2 (heat exchanger) and TH (2-way valve) are installed in correct positions. (2) Measure resistance of thermistor TH1 and TH5. (3) Check the 4-way valve for proper operation. (4) No abnormality found in above inspections (1) through (3).	(1) Correct the installation. (2) Replace the thermistor assembly. (3) Replace the 4-way valve. (4) Replace the outdoor unit control PWB assembly.
		●	●	●	●		3		Torque control error	(1) Check if the refrigerant volume is abnormally low. (2) Check the 4-way valve for proper operation. (3) Check to see compressor type is correct	(1) Change the specified amount of refrigerant. (2) Replace the 4-way valve. (3) Replace the compressor with correct.
		●	●	●	●		4	Cycle temperature	4 way valve error or Gas leak error	(1) Check to make sure outdoor unit thermistor TH2 (exchange) and TH3 (pipe temperature) are installed in correct portions. (2) Check if the refrigerant volume is abnormally low. (3) Check the 4-way valve for proper operation.	(1) Correct the installation. (2) Change the specified amount of refrigerant. (3) Replace the 4-way valve.

*3: The content of diagnosis is transferred to the indoor unit via serial communication, but it does not trigger a complete shutdown operation. Number of repetition *: No complete shutdown

⊗ : Flashes in 2-sec intervals (normal) ● : On X : Off ○ : Flashes 3 times in 0.2-sec intervals

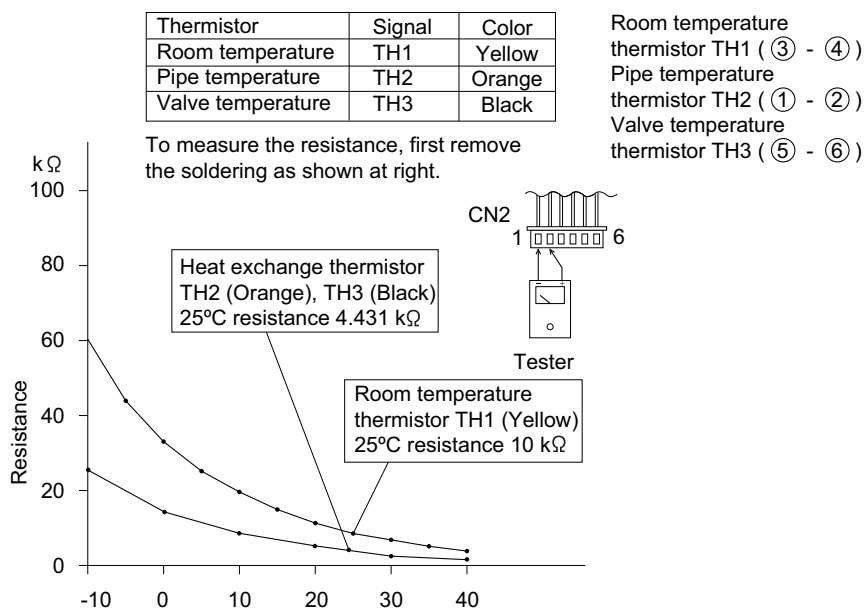
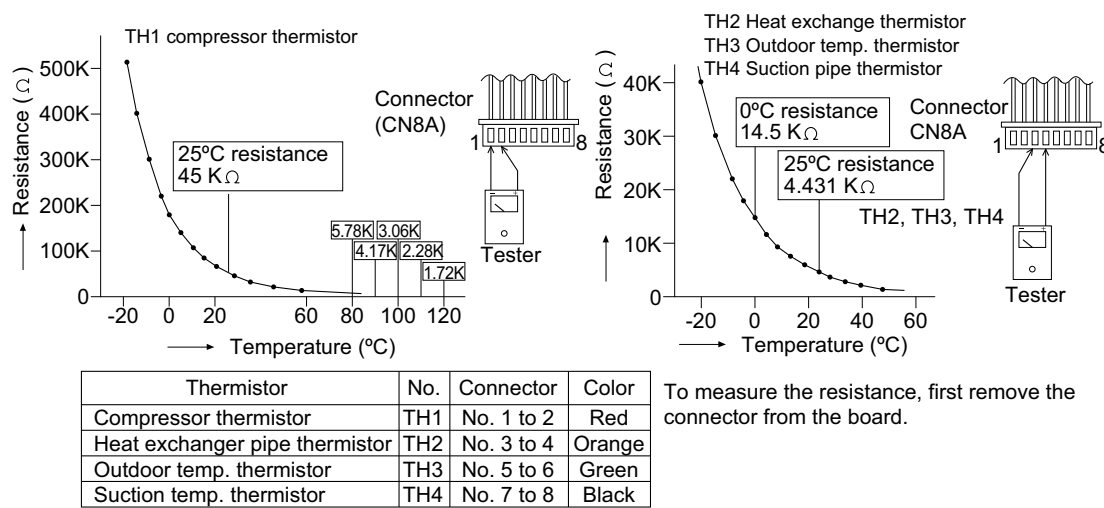
Status of indoor/outdoor units	Indication by LED on outdoor unit	Indication by operation lamp on indoor unit				Malfunction No.		Content of diagnosis		Inspection location/method	Remedy
		Lighting pattern at the time of timer lamp lighting				Main category	Sub category	Main category	Sub-category		
Indoor/outdoor units in complete shutdown	○ 10 time	●	●	●	●	10	0	EEPROM error	EEPROM (outdoor) data error		(1) Replace the outdoor unit control PCB assembly.
		●	●	●	●		1		EEPROM (outdoor) data error		
		●	●	●	●		2		EEPROM (outdoor) data error		
		●	●	●	●	11	0	Outdoor unit DC fan rotation error.	Outdoor unit DC fan rotation error.	(1) Check the connector CN3 of the outdoor unit DC fan motor for secure installation. (2) Check outdoor unit DC fan motor for proper rotation. (3) Check fuse FU3. (4) Outdoor unit control PCB.	(1) Correct the installation. (2) Replace the outdoor unit fan motor. (3) Replace the outdoor unit control PCB assembly. (4) Replace the outdoor unit control PCB assembly.
	○ 12 time	●	●	●	●	12	0	Thermal fuse in terminal board	Thermal fuse error in terminal board (for power supply)	(1) Check the thermal fuse in terminal board (for Power supply) (2) Check connector CN5 of the outdoor unit.	(1) Replace terminal board for Power supply (2) Replace the outdoor unit control PCB assembly.
		●	●	●	●	13	0	DC compressor	Compressor startup error	(1) Check the colors (red, white, orange) of the compressor cords for proper connection. (PWB side, compressor side)	(1) Correct the installation. (U:Red, V:White, W:Orange)
		●	●	●	●		-1		Compressor rotation error. (at 120° energizing)	(2) Check if the IPM terminal resistance values are uniform. (3) Check if outdoor main relay (MR Y1) turns on and voltage of both end of the capacitor (C10) has become DC330V.	(2) Replace the outdoor unit control PWB assembly. (3) Replace the outdoor unit control PWB assembly.
		●	●	●	●		-2		Compressor rotation error (at 180° energizing)	(4) No abnormality found in above inspections (1) and (3). (5) No abnormality found in above inspections (1) and (4).	(4) Replace the outdoor unit control PWB assembly (5) Replace the compressor.
	○ 14 time	●	●	●	●		-3		Detection error of inverter current.	(1) Check the circuit of detection of inverter current.	(1) Replace the outdoor unit control PCB assembly.
		●	●	●	●	14	0	Outdoor unit PFC Module	PFC Module over voltage error	(1) Check the connector of PFCM for secure installation.	(1) Correct the installation.
		●	●	●	●		-2		PFC Module filter low voltage error	(2) Check the AC power supply voltage for fluctuation.	(2) Connect stable power supply.
		●	●	●	●		-4		PFC Module PFCM error	(3) No abnormality found in above inspection (1).	(3) Replace the outdoor unit PFCM PWB or control PCB assembly.
Indoor unit in operation Outdoor unit in temporary stop	●	●	●	●	●		-5		PFC Module clock error		(1) Connect stable power supply. (2) Replace the outdoor unit control PWB assembly.
		●	●	●	●	17	0	Wires between units	Serial open circuit	(1) Check the wires between units. (2) Check voltage between Nos. 1 and 2 on the indoor/outdoor unit terminal boards.	(1) Connect stable power supply. (2) Replace the outdoor unit control PWB assembly.
	×	●	●	●	●				Outdoor unit does not turn on due to erroneous wiring	(1) Check the wires between units. (2) Check the outdoor unit fuse. (3) Check 15-V, 13-V and 5-V voltages on the PWB. (4) Check resistance between IPM terminals. (5) Check pins No. 5 and 7 of connector CN3 of the outdoor unit fan motor for short-circuit. (6) Outdoor unit control PWB	(1) Correct the wiring. (2) Replace the fuse or outdoor unit control PWB assembly. (3) Replace the outdoor unit control PWB assembly. (4) Replace the outdoor unit fan motor. (5) Replace the outdoor unit control PWB assembly.

3: The content of diagnosis is transferred to the indoor unit via serial communication, but it does not trigger a complete shutdown operation. Number of repetition: No complete shutdown

⊗: Flashes in 2-sec intervals (normal) ●: On ○: Off ○: Flashes 3 times in 0.2-sec intervals

Status of indoor/ outdoor units	Indication by LED on outdoor unit	Indication by operation lamp on indoor unit				Malfunction No.		Content of diagnosis		Inspection location/method	Remedy
		Lighting pattern at the time of timer lamp lighting				Main category	Sub category	Main category	Sub-category		
		▲	●	×	●						
Indoor unit in operation Outdoor unit in temporary stop	●	●	●	×	●	18	0	Wires between units	Serial short circuit	(1) Check the wires between units.	(1) Correct the wiring.
		●	●	●	●		1		Erroneous serial wiring	(1) Check the wires between units.	(1) Correct the wiring.
Indoor/ outdoor units in complete shutdown	×	●	●	●	●	19	0	Indoor unit fan	Indoor unit fan error	(1) Check the indoor unit fan motor for proper rotating operation. (Check for fan lock.) (2) Check the lead wire of the indoor unit fan motor for open-circuit. (3) Check CN8 of the indoor unit fan motor for secure installation. (4) No abnormality found in above inspections (1) through (3).	(1) Replace the indoor unit fan motor. (2) Replace the indoor unit fan motor. (3) Correct the installation of CN8 of the indoor unit fan motor. (4) Replace the indoor unit control PWB.
		●	●	●	●						
		●	●	×	×						
		●	●	×	×						
Indoor/ outdoor units in operation	⊗	●	●			20	0	Indoor unit control PWB	EEPROM data error	(1) Error in data read from the indoor unit EEPROM	(1) Replace the indoor unit control PCB.

3: The content of diagnosis is transferred to the indoor unit via serial communication, but it does not trigger a complete shutdown operation. Number of repetition °: No complete shutdown

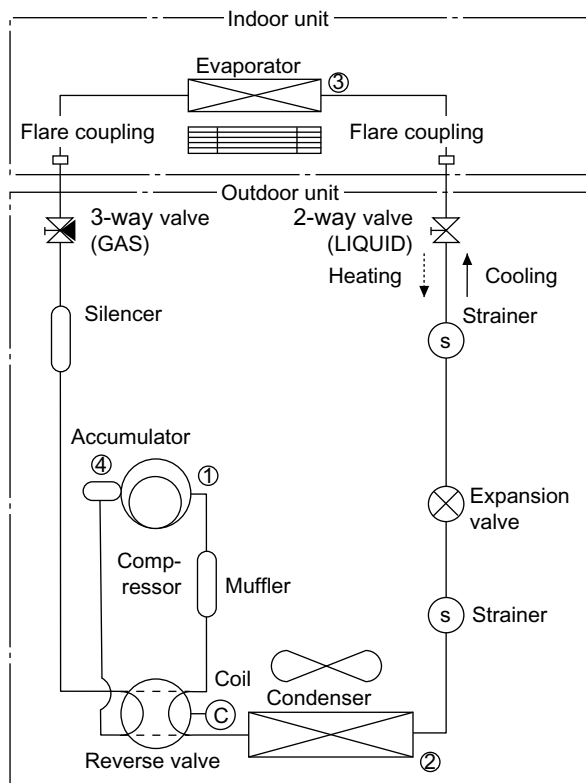
Figure 1 Temperature properties of indoor thermistors**Figure 2 Temperature properties of outdoor thermistors**

CHAPTER 4. REFRIGERATION CYCLE

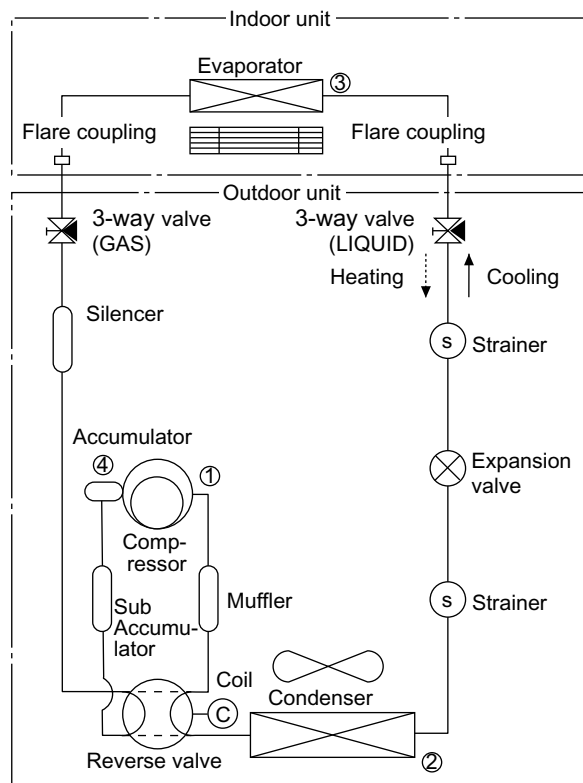
[1] REFRIGERATION CYCLE

1. FLOW OF REFRIGERANT

AY-XPC18LR



AY-XP24LR



2. STANDARD CONDITION

	Indoor side		Outdoor side	
	Dry-bulb Temperature	Relative humidity	Dry-bulb Temperature(°C)	Relative humidity
Cooling	27°C	47%	35°C	40%
Heating	20°C	—	7°C	87%

3. TEMPEATURE AT EACH PART AND PRESSURE IN 3-WAY VALVE

MODEL	AY-XPC18LR		AY-XP24LR	
No. Condition	Cooling	Heating	Cooling	Heating
Temp. on ① (°C)	74	82	79	83
Temp. on ② (°C)	41	4	39	5
Temp. on ③ (°C)	12	34	13	29
Temp. on ④ (°C)	12	6	10	3
3-way valve pressure (MPaG)	0.88	2.83	0.83	3.02

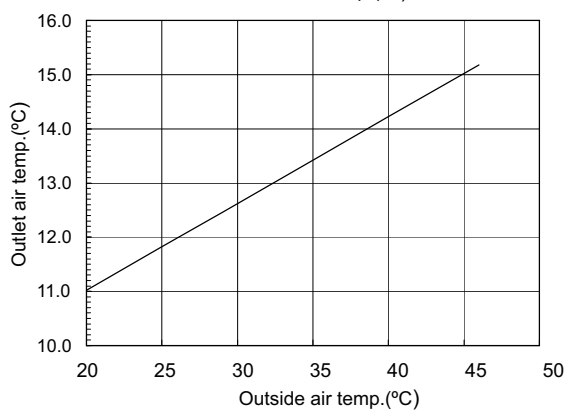
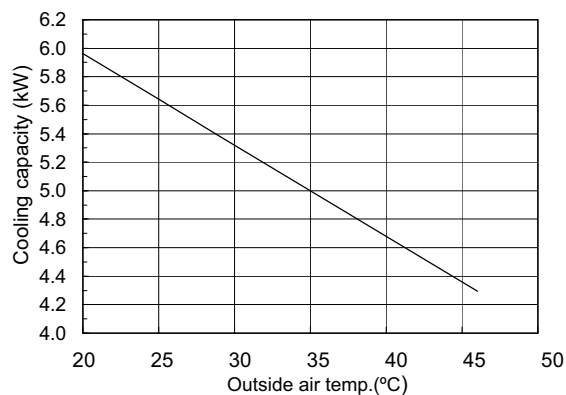
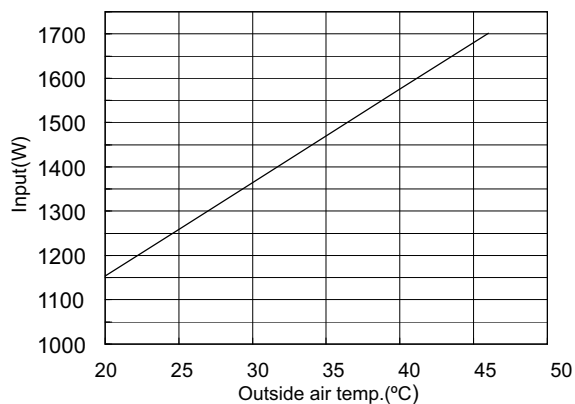
* On test run mode

[2] PERFORMANCE CURVES

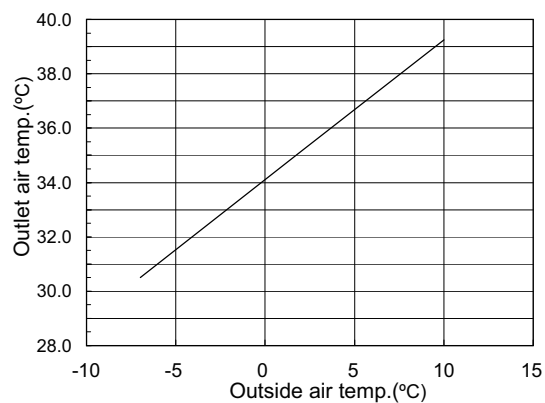
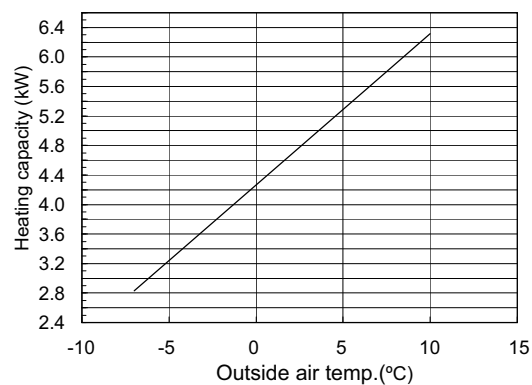
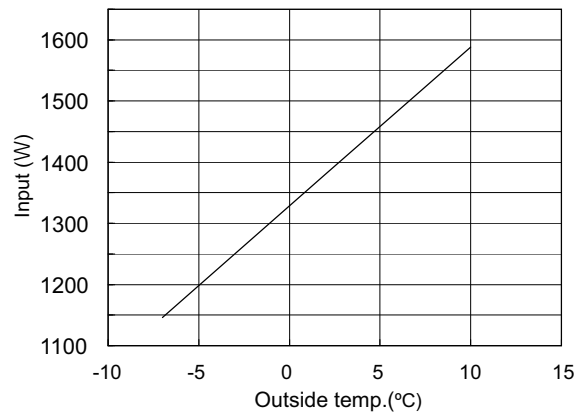
- NOTE: 1) Indoor fan speed: Hi
 2) Vertical adjustment louver "45°", Horizontal adjustment louver "front"
 3) Indoor air temp.: Cooling 27°C, Heating 20°C
 4) Power source: 230V, 50Hz

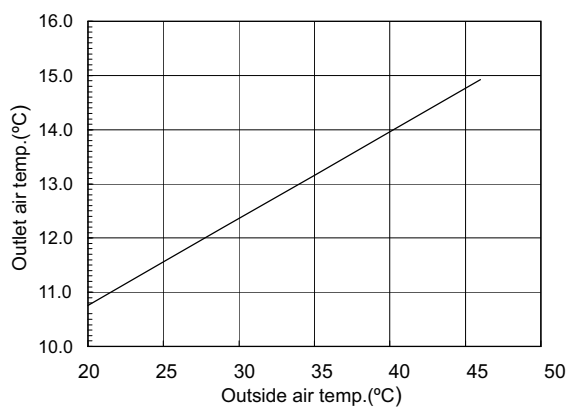
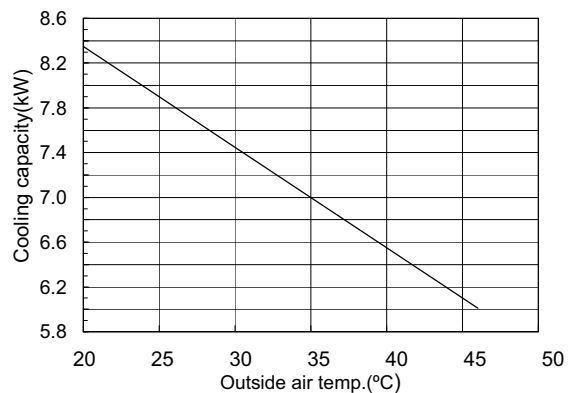
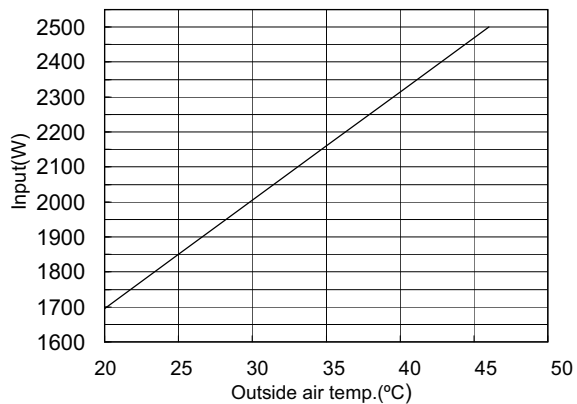
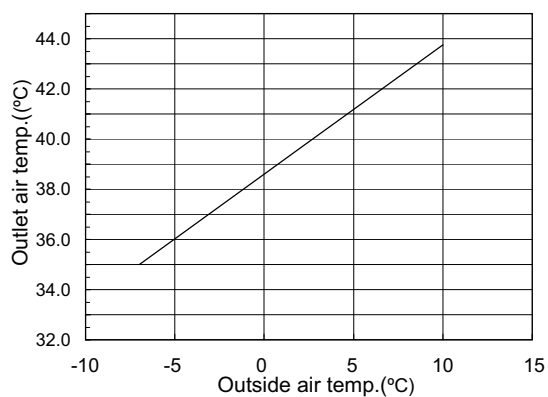
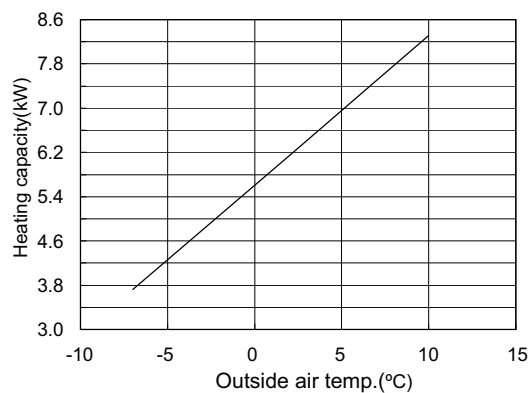
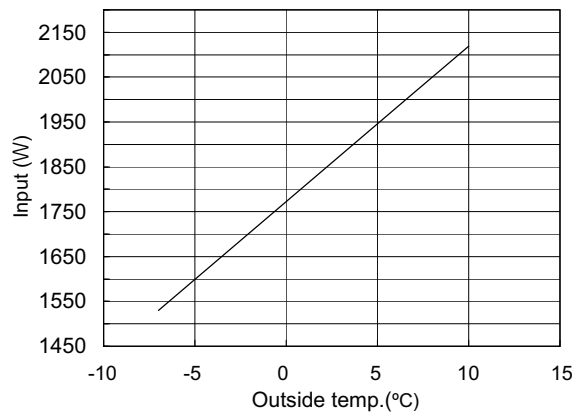
1. AY-XPC18LR

1.1. Cooling



1.2. Heating



2. AY-XP24LR**2.1. Cooling****2.2. Heating****[3] REFRIGERANT PIPE INSTALLATION WORKS**

Refrigerant pipe length and level difference between the indoor and outdoor units.

MODEL	PIPE SIZE		STANDARD PERMISSIBLE LENGTH	PERMISSIBLE LEVEL DIFFERENCE	CHARGE LESS LENGTH	ADDITIONAL CHARGE
	GAS	LIQUID				
AY-XPC18LR	1/2"	1/4"	20m	10m	10m	20g
AY-XP24LR	5/8"	1/4"	30m	10m	10m	20g

CHAPTER 5. DISASSEMBLING PROCEDURE

If, in carrying out repairs and modifications, the work requires the use of arc- and flame-producing apparatus, such as welding, brazing and soldering equipment, this work shall only be started after the rooms have been thoroughly ventilated. While the work is being carried out, the mechanical ventilation, if any, shall be kept in constant operation and all windows and doors kept open. In the case of repairs to parts of the refrigerant circuit, it may be necessary that not only the workman but also a second person shall be present for observation and assistance.

Necessary protective equipment shall be available and, in the case of open flames or arcs, fire extinguishing apparatus shall be ready to hand.

Welding and brazing shall be carried out by qualified workmen.

Be sure to disconnect the power cord from the AC power outlet before starting the disassembly procedure. When reassembling the unit after repairing, be sure to install screws to their original positions.

The screws used are not the same in specifications such as corrosion-resistant treatment, tip shape and length.

After the air conditioner is repaired or parts are replaced, measure insulation resistance of the equipment using an insulation resistance meter. If the measured resistance is lower than 1 M Ω , inspect parts and repair or replace defective parts.

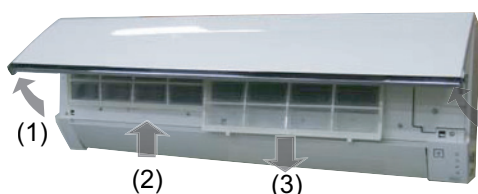
[1] INDOOR UNIT

CAUTION: DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING.

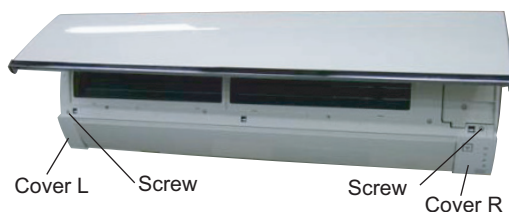
1. Disassembling procedure of the indoor unit

1) Remove two air filters.

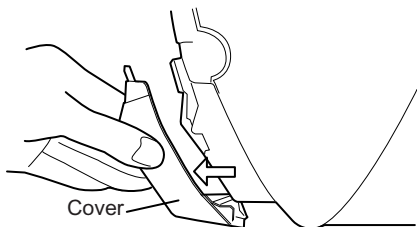
- (1) Open the open panel
- (2) Push the air filters up slightly to unlock them.
- (3) Pull the air filters down to remove them.



2) Remove the 2 screws fixing the cover L and cover R.



Pull the covers toward you to release the lock.



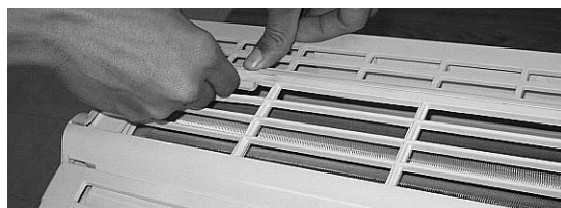
3) Remove 5 screws fixing the front panel.



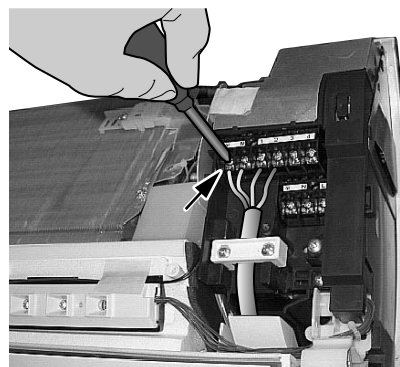
4) Remove the screw fixing the Cord holder.

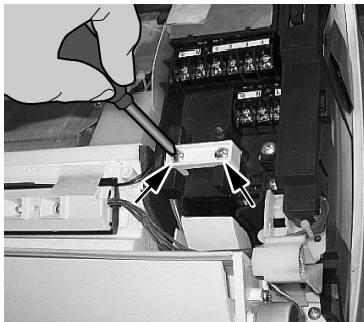


5) Close the open panel. Push the hook of the cabinet, and lift the front panel up.

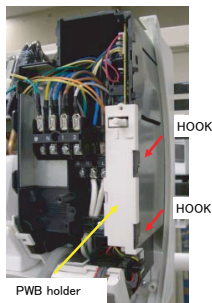
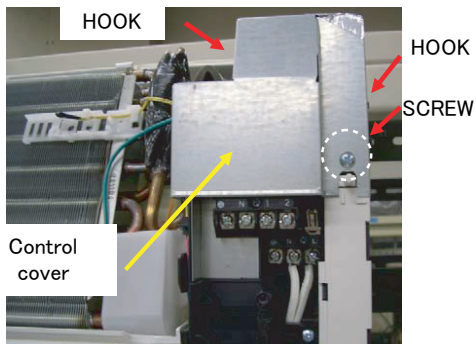


6) Remove the unit-to-unit wiring from the Terminal board.

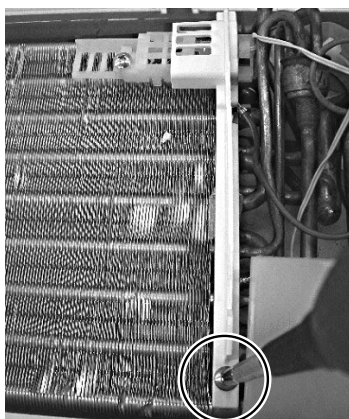




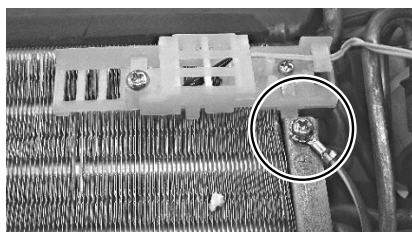
- 7) Remove a screw fixing the control cover.
Unfix 2 hooks and remove the control cover.
Unfix 2 hooks and remove the PWB holder.



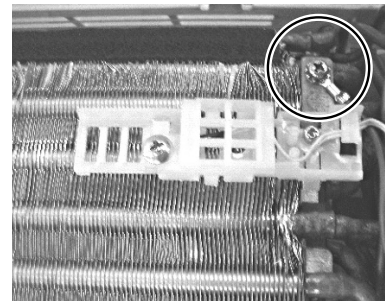
- 8) Remove a screw fixing the cover and unhook the cover in the direction of an arrow. (18000BTU model only)



Remove a screw fixing the ground wire.

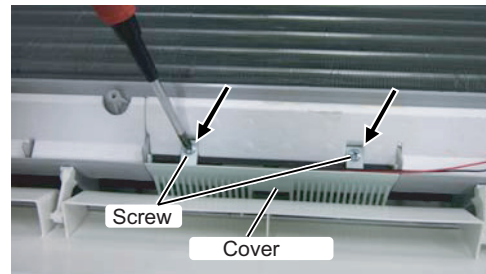


18000BTU MODEL

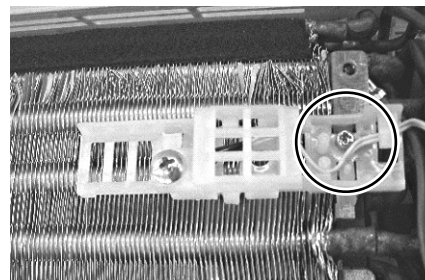


24000BTU MODEL

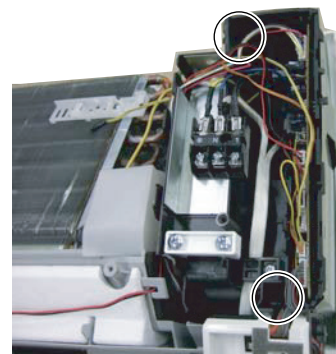
- 9) Remove 2 screws fixing the cover.



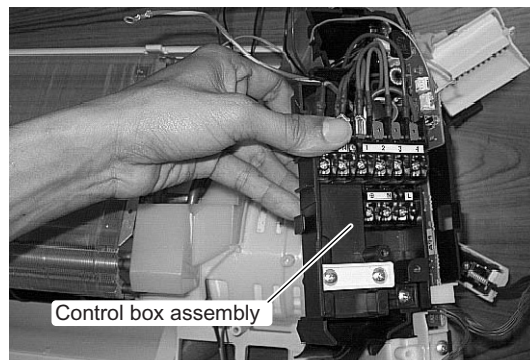
- 10) Remove a screw fixing the thermistor holder.
Remove the thermistor holder.



- 11) Disconnect the connector and remove 2 screws fixing the control box assembly.



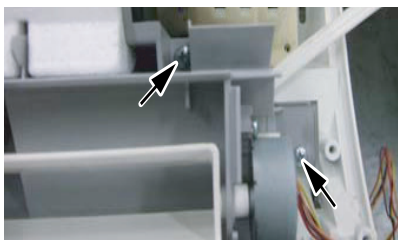
- 12) Remove the control box assembly.



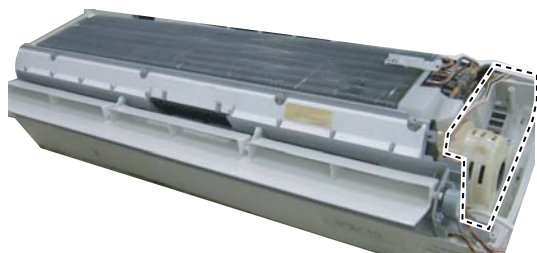
13) Remove 4 screws fixing the drain pan and pull drain pan toward you.



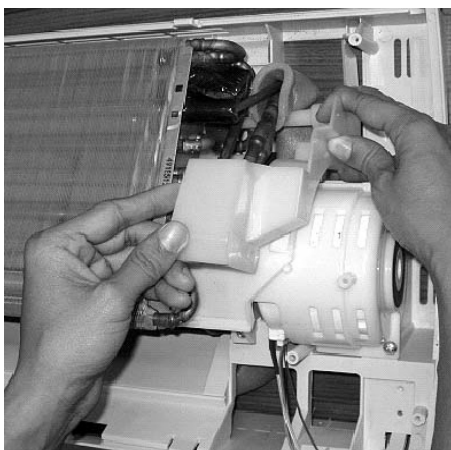
Left side



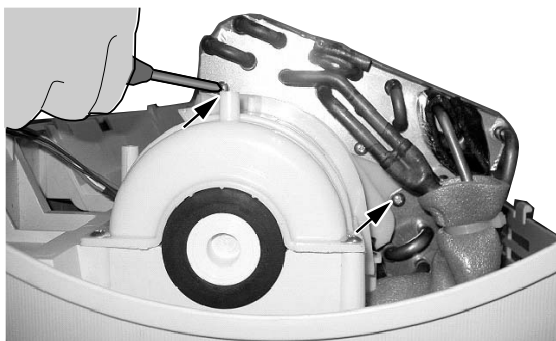
Right side



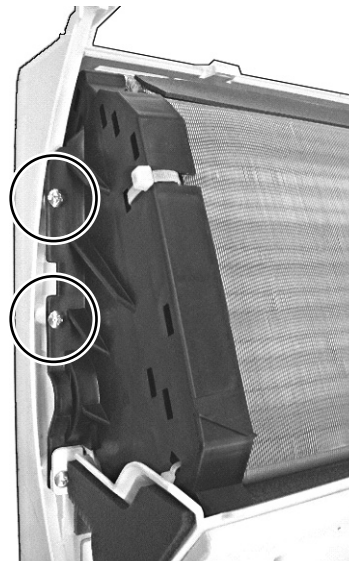
14) Remove the drain cover from the evaporator.



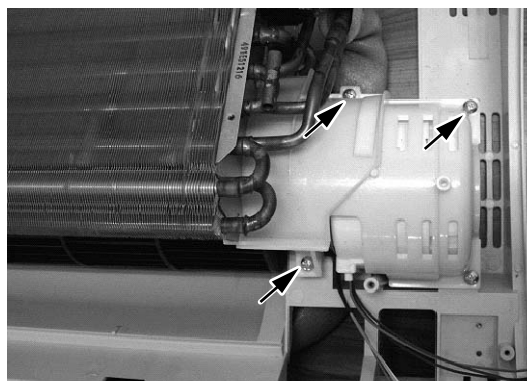
15) Remove 2 screws fixing the evaporator.



16) Remove the 2 screws fixing the side coder L.



17) Remove 3 screws fixing the side cover R and remove the and remove the evaporator from the cabinet.

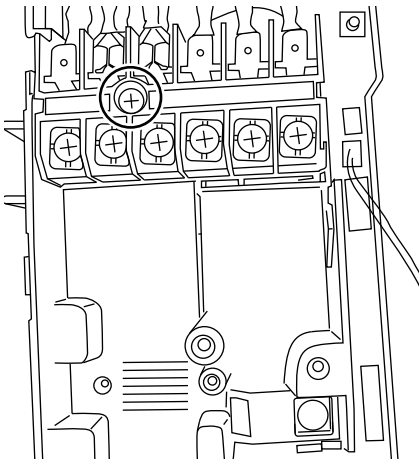


18) Loose a screw fixing cross flow fan.

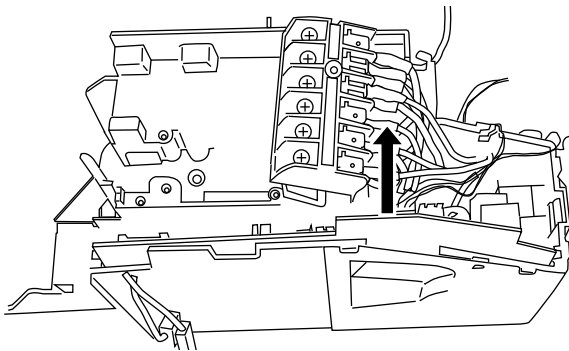


2. ELECTRIC CONTROL BOX

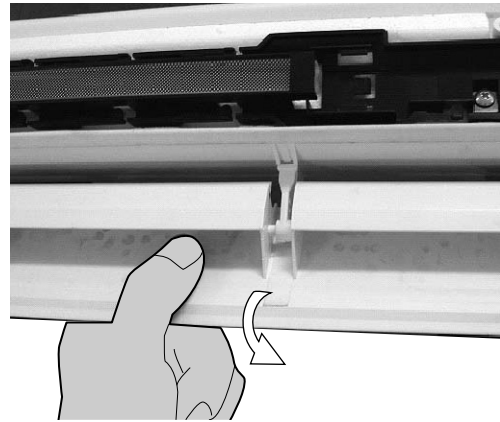
1) Remove a screw fixing the terminal board.



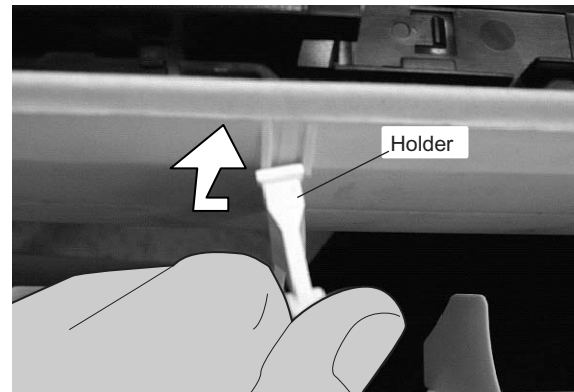
2) Pull the control board unit.



2) Open the horizontal louver to remove it from the holders.

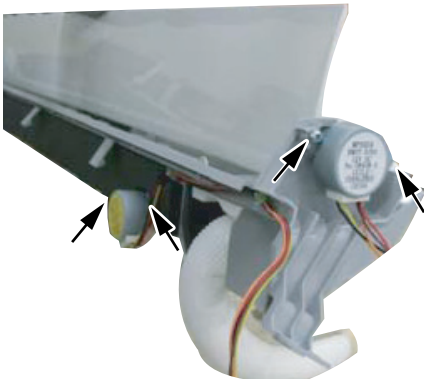


3) Remove the holders.

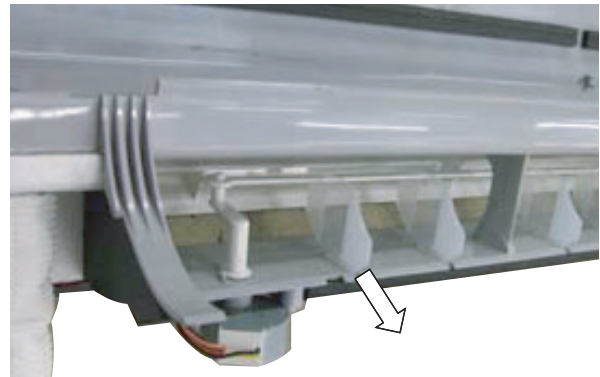


3. The louver and related

1) Remove the two screw fixing the louver motor.

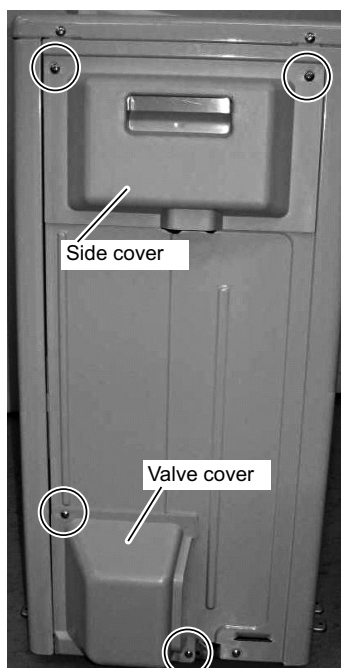


4) Tilt the hooks of vertical louvers inside, and pull them up.

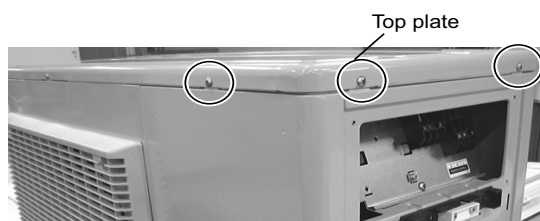
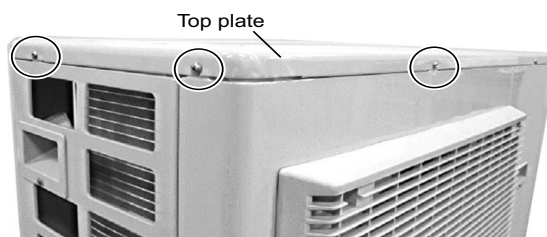


[2] OUTDOOR UNIT

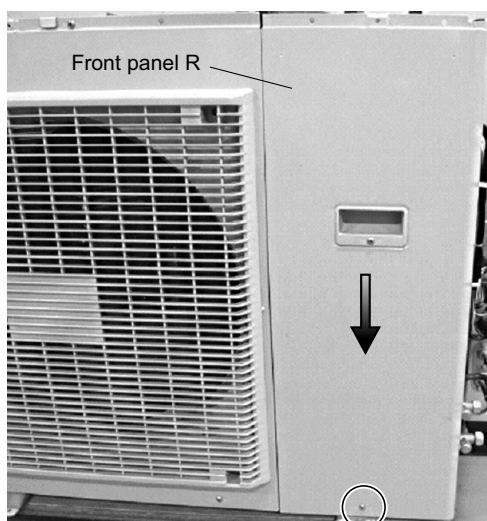
1. Remove the 4 screws fixing the side cover and valve cover then remove them..



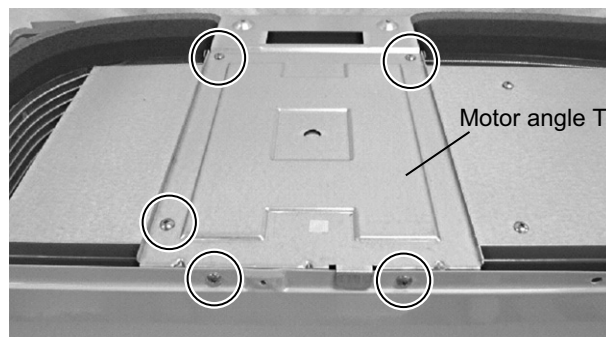
2. Remove the 6 screws fixing the top plate, then remove it.



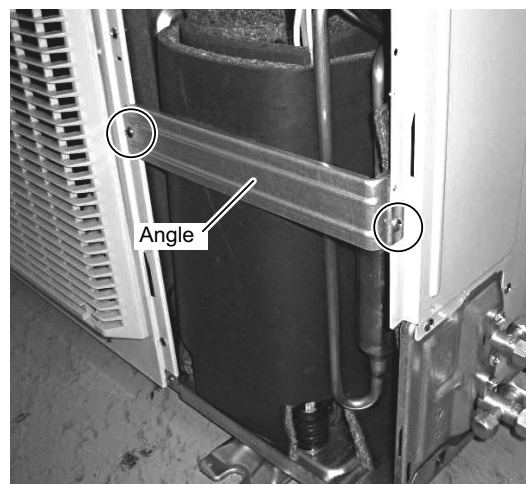
3. Remove the 1 screw fixing the front panel R and slide the front panel R down, then remove it.



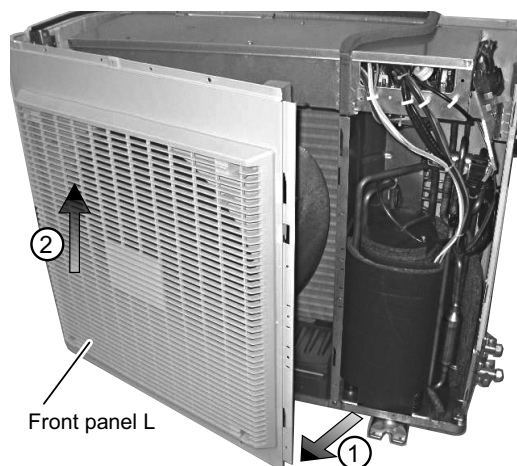
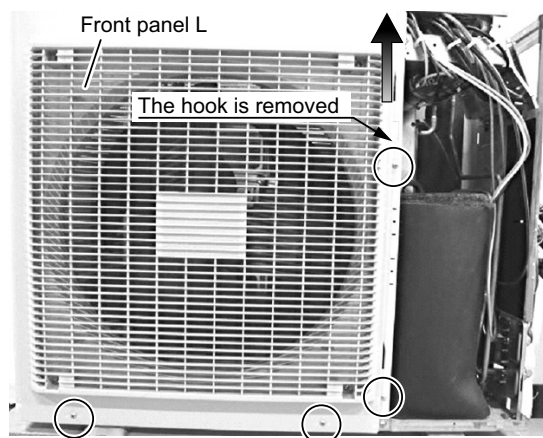
4. Remove the 5 screws fixing the motor angle T, then remove it.



5. Remove the 2 screws fixing the angle, then remove it.



6. Remove the 4 screws fixing the front panel L, then remove it.

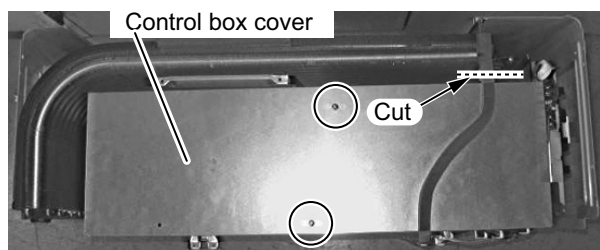


AYXPC18LR

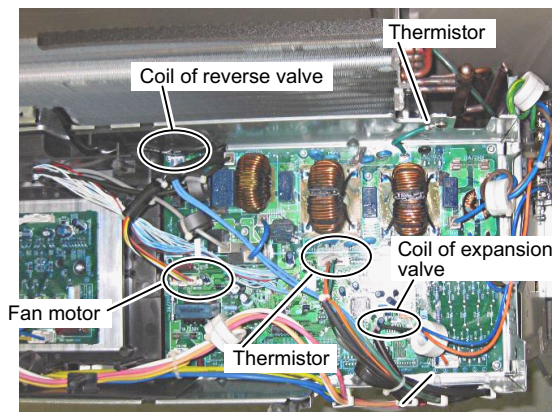
7. Cut the insulators.

8. Remove the 2 screws fixing the control box cover, then remove it.

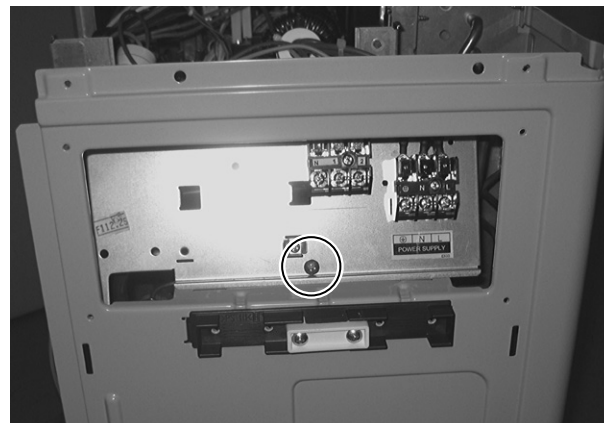
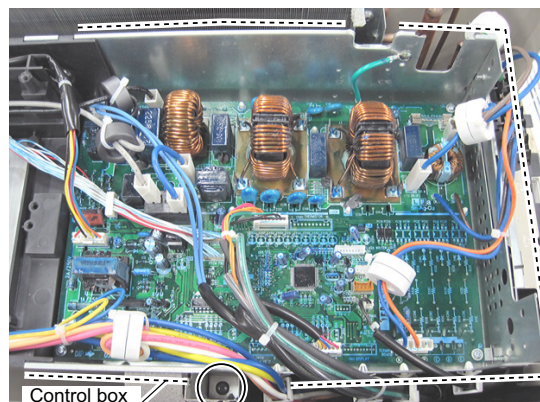
CAUTION: Discharge electric capacitor before touching this capacitor or other components or wirings.



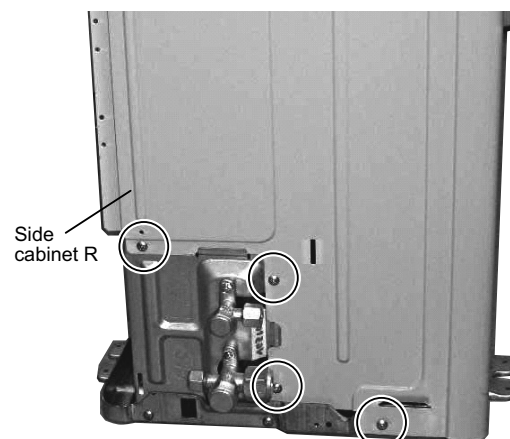
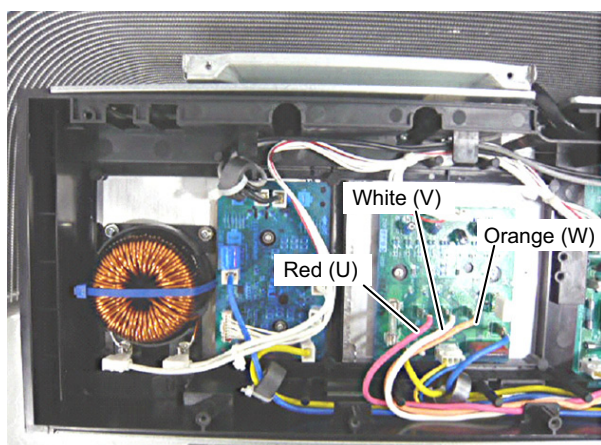
9. Disconnect the 4 connectors and the 3 terminals.



Fan motor / Expansion valve / Thermistor

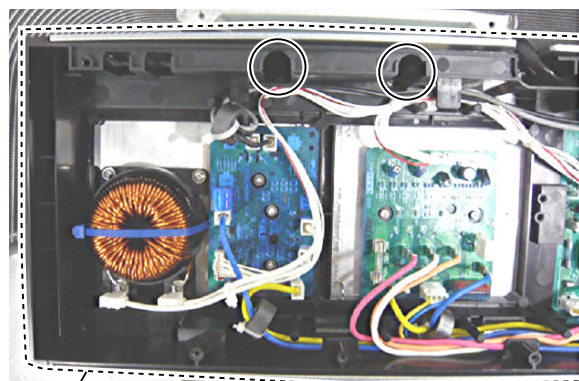


11. Remove the 11 screws fixing the side cover R and slide the side cabinet R.



NOTE: Caution to the position of connectors when reinstalling.

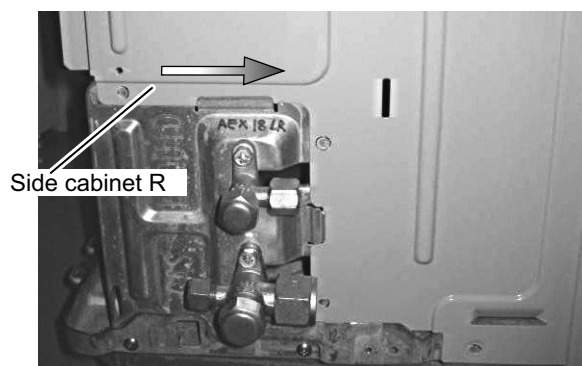
10. Remove the 5 screws fixing the control box assembly, then remove it.



1) Tilt the side cabinet R, then remove the left side hook.



2) Keep the above condition and remove the side cabinet R by sliding to sideways.



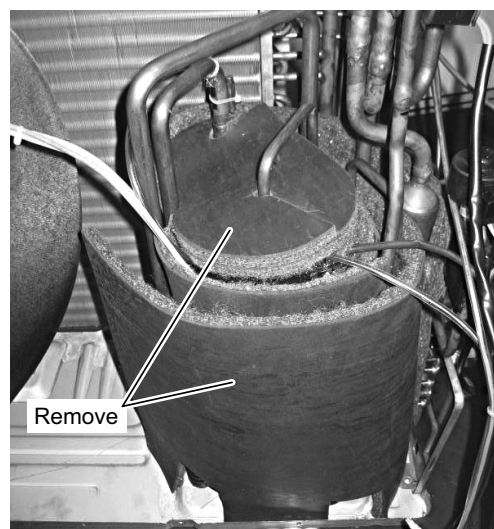
12.Remove the screws fixing the side cabinet L, then remove it.



13.Remove the 2 screws fixing the bulkhead, then remove it.

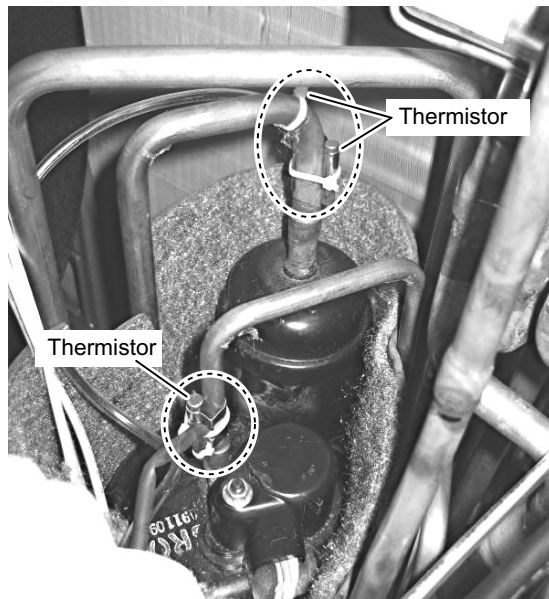


14.Remove the compressor covers(3pcs).



AYXPC18LR

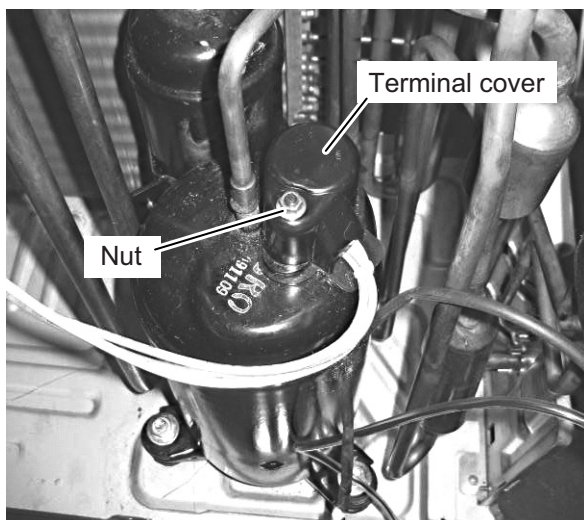
15. Cut the fixing bands and remove thermistors.



16. Remove the compressor cover.

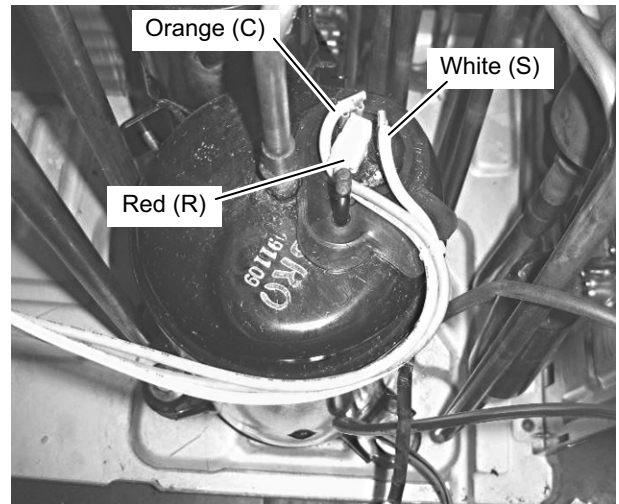


17. Remove the nut and terminal cover..

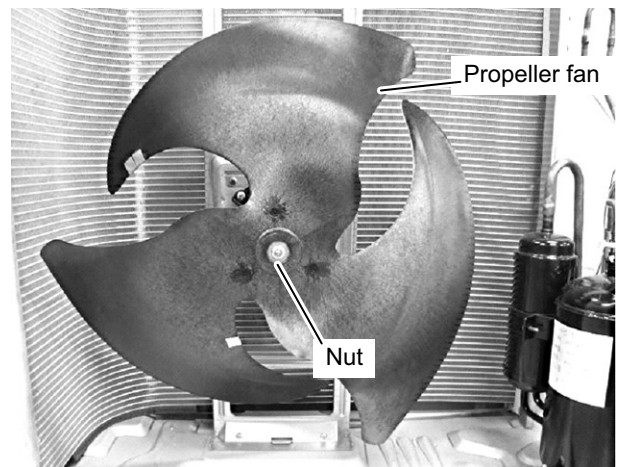


18. Disconnect 3 terminals.

NOTE: Caution to the position of connectors when reinstalling.



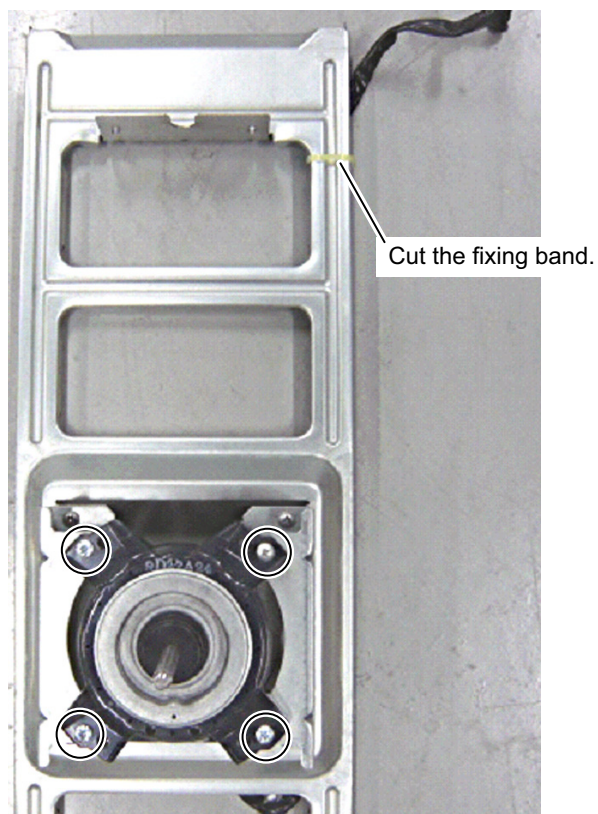
19. Remove the 1 nut fixing the propeller fan, then remove it.



20. Remove the 2 screws fixing the motor angle, then remove it.

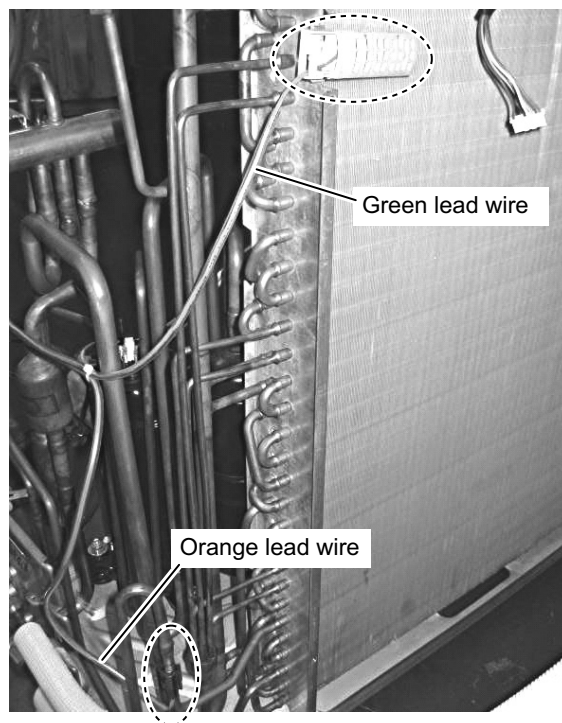
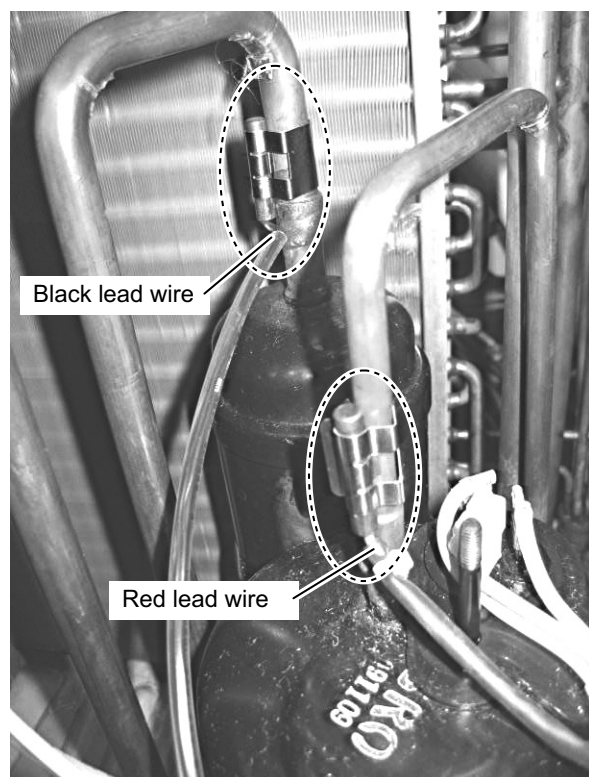


21.Remove the 4 screws fixing the fan motor, then remove it.



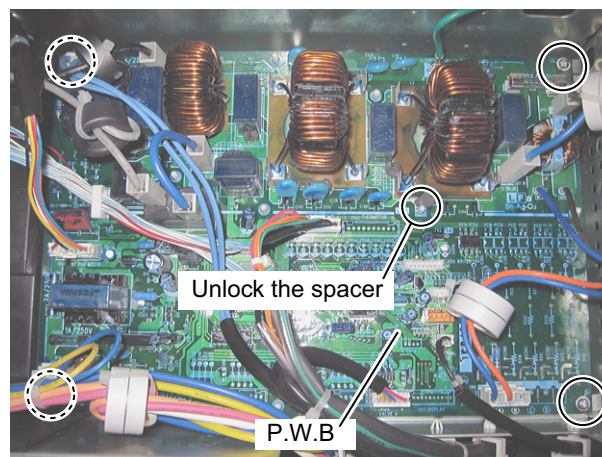
22.Position of the thermistors.

NOTE: Caution to the position when reinstalling.



23.How to disassemble the control box assembly.

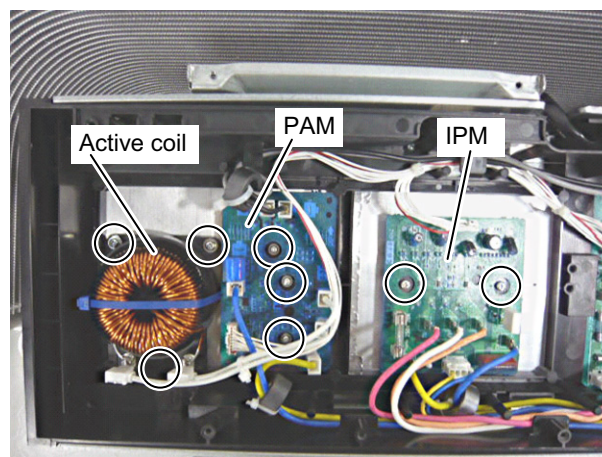
1) Remove the 4 screws fixing the PWB, then remove it.



2) Remove the 2 screws fixing the IPM, then remove it.

3) Remove the 3 screws fixing the PAM.

4) Remove the 3 screws fixing the Active coil.



SHARP PARTS LIST

SPLIT TYPE AIR CONDITIONER

MODELS	INDOOR UNIT	OUTDOOR UNIT
	AY-XPC18LR AY-XP24LR	AE-X18LR AE-X24LR

CONTENTS

- | | |
|--------------------------|---------------------------|
| [1] INDOOR UNIT PARTS | [6] CYCLE PARTS |
| [2] ACCESSORY PARTS | [7] CONTROL BOX PARTS |
| [3] INDOOR PACKING PARTS | [8] OTHER OUTDOOR PARTS |
| [4] OTHER PARTS | [9] OUTDOOR PACKING PARTS |
| [5] OUTDOOR UNIT PARTS | ■ INDEX |

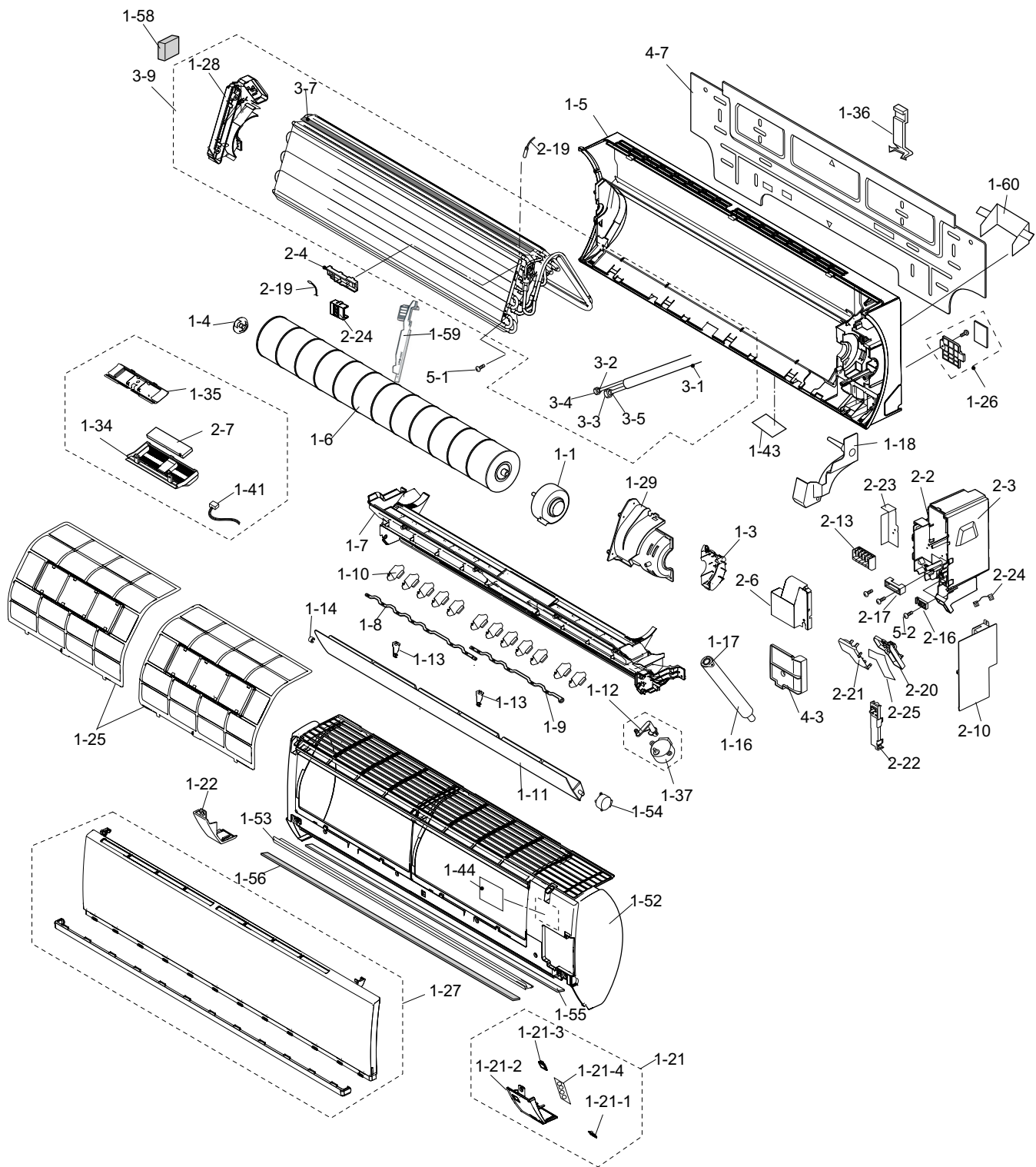
HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

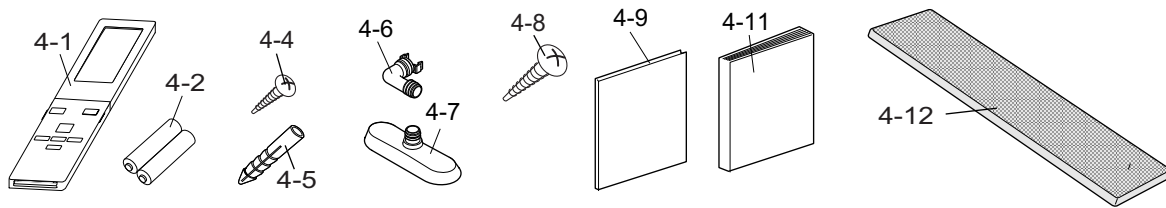
Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

[1] INDOOR UNIT PARTS



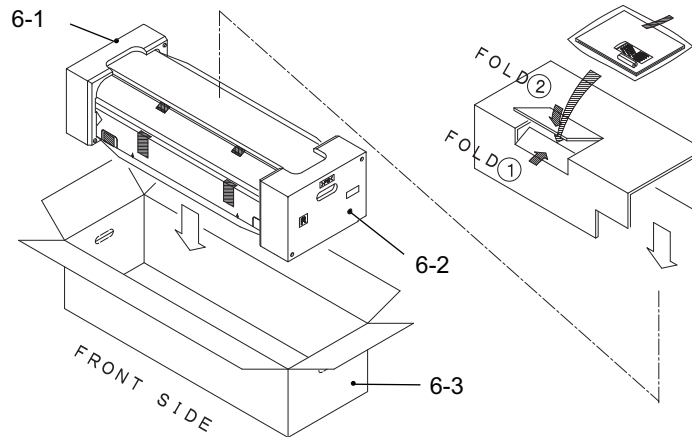
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[1] INDOOR UNIT PARTS					
1-1	CMOT-A524JBKZ	BS			Fan Motor Sub Assembly
1-3	PCOV-B593JBFZ	AP			Motor Cover
1-4	CHLD-A067JBK0	AL			Bearing Assembly
1-5	DCHS-A761JBKZ	BM			Cabinet Sub Assembly
1-6	NFANCA091JBEZ	BD			Cross Flow Fan
1-7	DSRA-A339JBKZ	BF			Drain Pan Sub Assembly
1-8	MJNTPA158JBFA	AL			Louver Link L
1-9	MJNTPA159JBFA	AL			Louver Link R
1-10	MLOV-A532JBFA	AL			Vertical Louver
1-11	MLOV-A533JBFA	BB			Horizontal Louver
1-12	MJNTPA160JBFA	AL			Motor Joint
1-13	NBRG-A057JBFA	AL			Holder
1-14	NBRG-A026JBFA	AB			Louver Bushing
1-16	PHOS-A058JBEZ	AX			Drain Hose
1-17	LPLT-A058JBPZ	AC			Hose Holder
1-18	DCOV-A207JBKZ	AF			Drain Cover Assembly
1-21	CCOV-A327JBKZ	AU			Cover R Assembly
1-21-1	PCOV-B581JBFA	AL			Receiving Filter
1-21-2	PCOV-B747JBRA	AK			Cover R
1-21-3	PCOV-B583JBRA	AS			Cluster Display
1-21-4	PSHE-A278JBEZ	AH			Sheet
1-22	DCOV-A357JBKZ	AK			Cover Assembly
1-25	PFILMA250JBEB	AN			Air Filter
1-26	DHLD-A010JBKZ	AK			Tube Holder Assembly
1-27	DPNL-A062JBKZ	BD			Open Panel Assembly
1-28	PPLT-A756JBFZ	AL			Side Cover L
1-29	PPLT-A666JBFZ	AV			Side Cover R
1-34	DCOV-A349JBKZ	AL			Cover Assembly
1-35	DHLD-A049JBKZ	AL			Holder Assembly
1-36	LHLD-A277JBF0	AD			Tube Holder
1-37	RMOT-A192JBZZ	AZ			Louver Motor
1-41	QW-VZG168JBZZ	AP			Lead Wire
1-43	TSPC-G721JBRA	AK			Name Label [18]
1-43	TSPC-G768JBRA	AK			Name Label [24]
1-44	TLABCC718JBRZ	AK			Wiring Diagram
1-52	DWAK-B002JBKZ	BB			FRONT PANEL Assembly
1-53	PSEL-E004JBEZ	AL			SEAL
1-54	RMOT-A193JBZZ	AZ			Louver Motor
1-55	PSEL-E003JBEZ	AK			Seal
1-56	PSEL-E199JBEZ	AH			Insulator
1-58	PSEL-E087JBEZ	AH			Insulator (Attach to 1-28)
1-59	PCOV-B754JBFA	AK			Cover [18]
1-60	PCOV-B772JBEZ	AK			Cover
2-2	PBOX-A537JBFA	AX			Control Box
2-3	CCOV-A283JBKZ	BB			Control Cover Assembly
2-4	LHLD-B070JBFZ	AK			Thermistor Holder
2-6	PCOV-B584JBWZ	AP			Control Cover
2-7	CKITTA133AKKZ	BM			Plasmacluster Unit
2-10	DSGY-E156JBKZ	BT			Control Board Unit Main[18]
2-10	DSGY-E161JBKZ	BT			Control Board Unit Main[24]
2-13	QTANZA039JBZZ	AQ			Terminal Board (4P)
2-16	LHLD-B033JBFA	AK			Cord Holder
2-17	LHLD-A539JBFA	AE			Cord Holder
2-19	RH-HXA148JBZZ	AX			Thermistor
2-20	PCOV-B585JBFA	AL			LED Holder A
2-21	LHLD-B030JBFA	AL			LED Holder B
2-22	LHLD-B031JBFA	AP			PWB Holder
2-23	PCOV-B588JBWZ	AP			Terminal Cover
2-24	PCOV-A300JBF0	AB			Thermo Holder Cover
2-25	DSGY-E160JBKZ	BT			Control Board Unit Sub
3-1	CPIPCB413JBKZ	BN			Tube Assembly[18]
3-1	CPIPCB428JBKZ	BK			Tube Assembly[24]
3-2	PSEN-A044JBKZ	AG			Flare Nut Assembly
3-3	PSEN-A053JBKZ	AN			Flare Nut Assembly
3-4	PVLV-A381JBEZ	AN			Flare Union (1/4 inch)
3-5	PVLV-A376JBEZ	AS			Flare Union (1/2 inch) [18]
3-5	PVLV-A379JBEZ	AT			Flare Union (5/8 inch) [24]
3-7	PSEL-E180JBEZ	AG			Evaporator seal
3-9	CCYC-C523JBKZ	BU			Evaporator Assembly [18]
3-9	CCYC-C533JBKZ	BU			Evaporator Assembly [24]
4-3	DHLD-A037JBKZ	AV			Cord Holder Assembly
4-7	PPLTNA120JBWZ	AZ			Mounting Angle
5-1	LX-BZA075JBE0	AA			Special Screw
5-2	XTPS740P25000	AC			TAPPING SCREW

[2] ACCESSORY PARTS

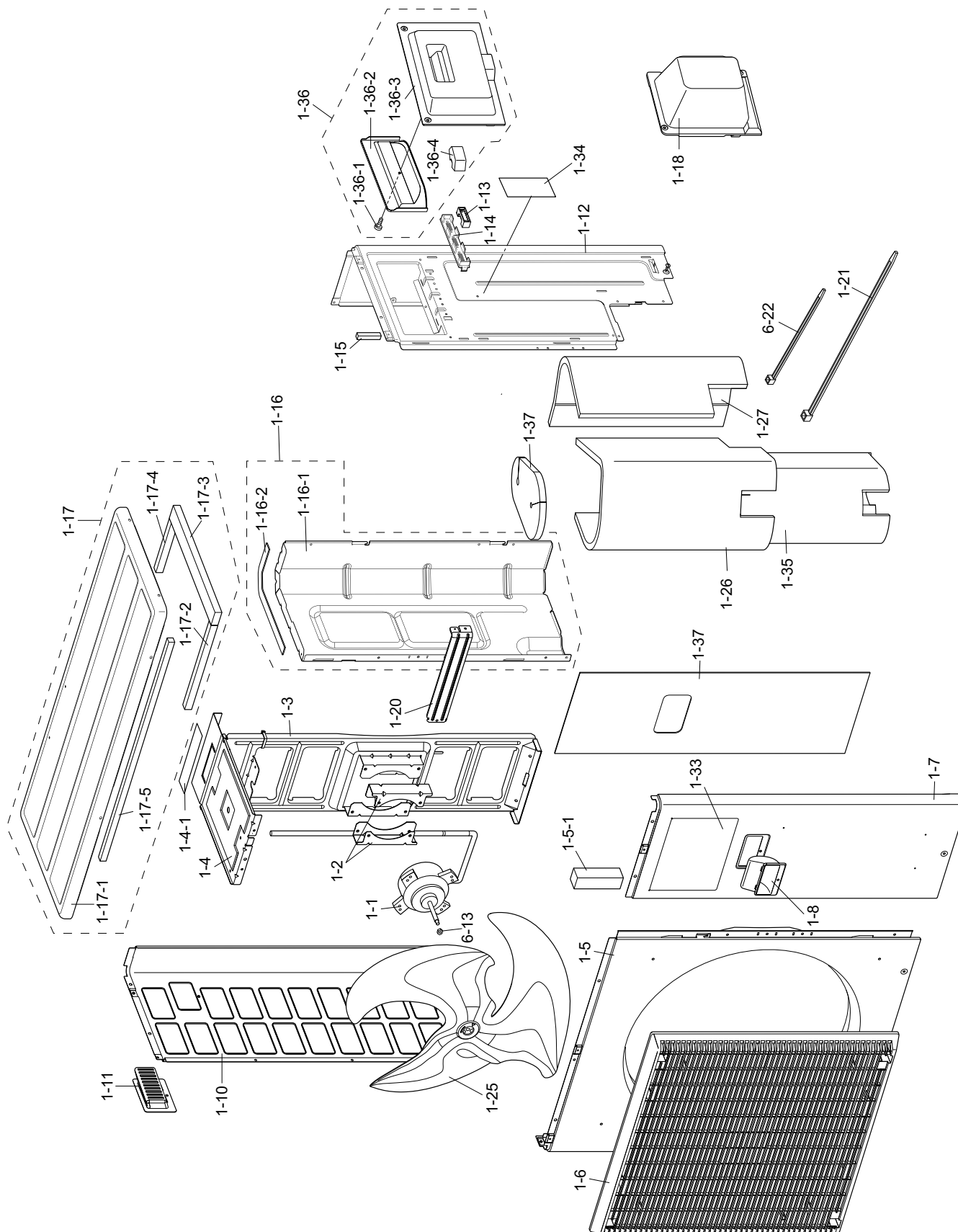


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[2] ACCESSORY PARTS					
4-1	CRMC-A797JBEZ	BL			Remote Control
4-2	UBATUA027JBE0	AE			Battery Pack
4-4	LX-BZA357JBEZ	AE			Special screw
4-5	LX-NZA207JBEZ	AE			Special Nut
4-6	LPFT-A134JBFZ	AF			Drain Joint (for 1800 Btu type, accessory kit parts of OUTDOOR UNIT)
4-7	LPFT-A135JBFZ	AH			Drain Tray (for 1800 Btu type, accessory kit parts of OUTDOOR UNIT)
4-8	XTTS745P30000	AC			Tapping Screw
4-9	TiNS-B246JBRZ	AK			Installation Manual [18]
4-9	TiNS-B270JBRZ	AP			Installation Manual [24]
4-11	TiNSEA639JBRZ	AN			Operation Manual
4-12	CFiL-A087JBKZ	BB			Purify Filter Assembly

[3] INDOOR PACKING PARTS

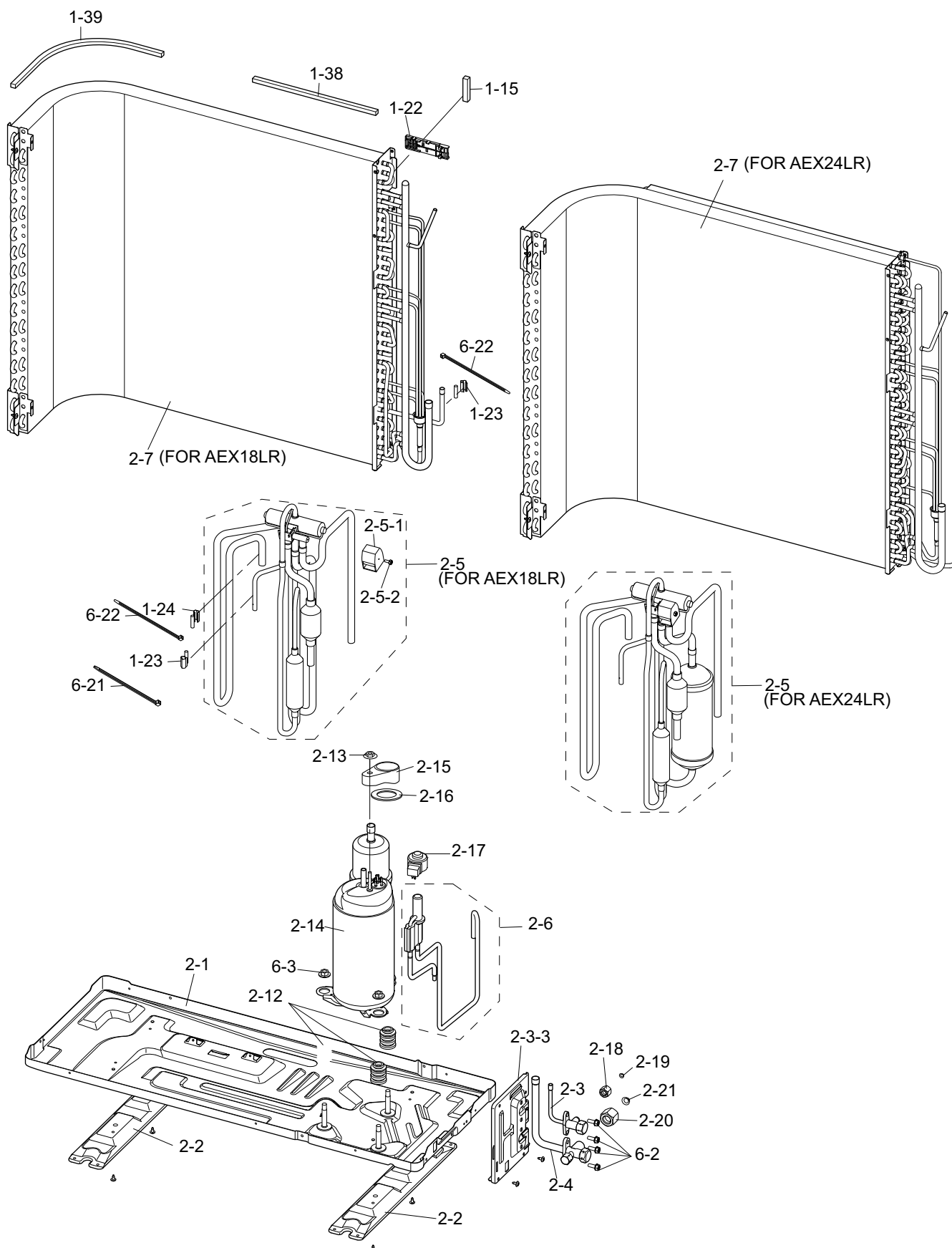


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] INDOOR PACKING PARTS					
6-1	SPADBA480JBEZ	AP			Packing Pad
6-2	SPADBA481JBEZ	AP			Packing Pad
6-3	SPAKCC839JBEZ	BB			Packing Case [18]
6-3	SPAKCC857JBEZ	BB			Packing Case [24]
[4] OTHER PARTS					
2-1	QFS-iA001JBZZ	AH			Fuse 2.5A 250V(Fu1)
2-19	QSW-PA024JBZZ	AH			Switch (SW1)
2-30	RH-VXA002JBZZ	AF			Varistor (NR1)
2-31	RTRNWA051JBZZ	BB			Transformer (TR2)

[5] OUTDOOR UNIT PARTS

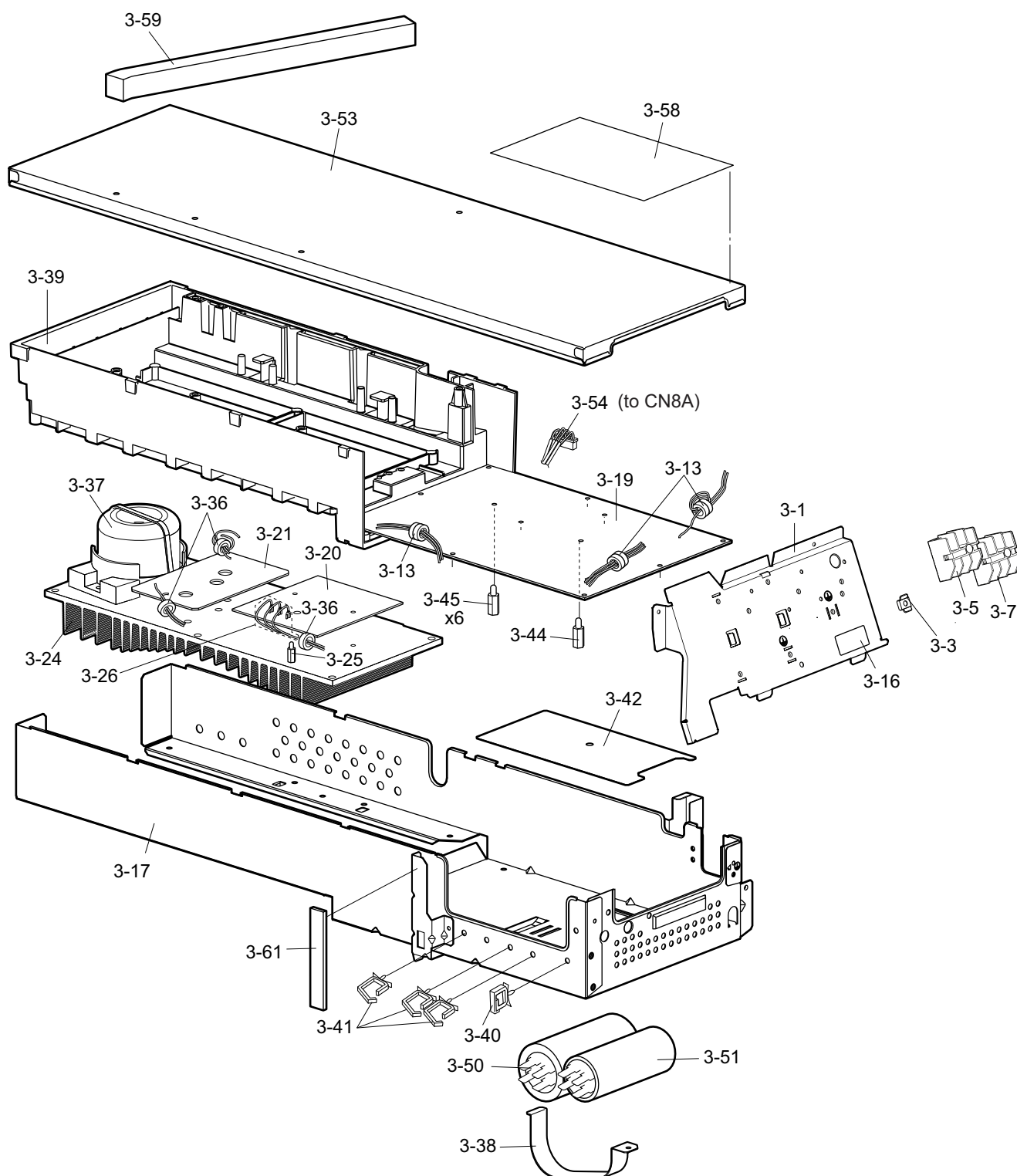
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[5] OUTDOOR UNIT PARTS					
1-1	CMOTLB426JBEZ	CA			Fan Motor
1-2	LANGKA253JBPZ	AM			Fan Motor Angle Sub

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[5] OUTDOOR UNIT PARTS					
1-3	LANGKA267JBPZ	AY			Motor Angle
1-4	LANGKA268JBPZ	AP			Motor Angle T
1-4-1	PSEL-E186JBEZ	AE			Angle Top Seal
1-5	GCAB-A409JBTA	BE			Front Panel L
1-5-1	PSEL-E132JBEZ	AK			Front Panel L Seal
1-6	GGADFA042JBFA	BH			Fan Guard
1-7	GCAB-A408JBTA	AX			Front Panel R
1-8	JHNDPA016JBFA	AE			Handle
1-10	GPLTMA072JBTA	AZ			Side Cabinet L
1-11	JHNDPA028JBFA	AK			Handle
1-12	GPLTMA075JBTA	BC			Side Cabinet R
1-13	LHLD-A539JBFA	AE			Cord Holder
1-14	LHLD-B095JBFA	AK			Cord Clamp Holder
1-15	PSEL-E120JBEZ	AK			Side Cabinet R Seal
1-16	CSKR-A512JBKZ	BA			Bulkhead Assembly
1-16-1	PSKR-A372JBPZ	AU			Bulkhead
1-16-2	PSEL-E135JBEZ	AK			Bulkhead Seal
1-17	DCAB-A167JBKZ	BF			Top Plate Assembly
1-17-1	GCAB-A410JBTA	BD			Top Plate
1-17-2	PSEL-E129JBEZ	AK			Top Plate Seal A
1-17-3	PSEL-E130JBEZ	AN			Top Plate Seal B
1-17-4	PSEL-E131JBEZ	AK			Top Plate Seal C
1-17-5	PSEL-E153JBEZ	AK			Top Plate Seal D
1-18	PCOV-B739JBFA	AN			Valve Cover
1-20	LANG-A737JBPZ	AL			Angle
1-21	LBND-A046JBE0	AE			Wire Fixing Band
1-25	NFANPA142JBFA	BE			Propeller Fan
1-26	PSPF-B173JBEZ	AZ			Compressor Cover A
1-27	PSPF-B174JBEZ	AX			Compressor Cover B
1-33	TLABMA565JBRA	AQ			Inverter Label
1-34	TSPC-G722JBRZ	AK			Name Label [18]
1-34	TSPC-G769JBRZ	AK			Name Label [24]
1-35	PSPF-B161JBEZ	AY			Compressor Cover A
1-36	DCOV-A347JBKZ	AW			Side Cover Assembly
1-36-1	LX-BZA461JBEZ	AH			Special Screw
1-36-2	PCOV-B726JBWZ	AM			Terminal Cover
1-36-3	PCOV-B740JBFA	AN			Side Cover 2
1-36-4	PSEL-C051JBEZ	AE			Side Cover Seal
1-37	PSPF-B162JBEZ	AS			Compressor Cover C
6-13	LX-NZA378JBEZ	AK			Special Nut
6-22	LBND-A042JBE0	AC			Wire Fixing Band

[6] CYCLE PARTS

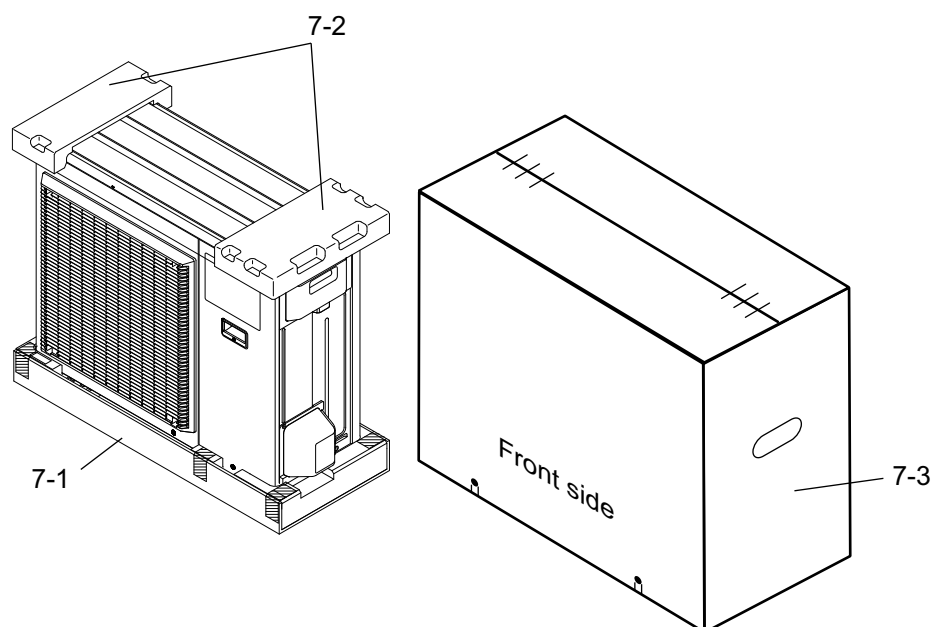
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[6] CYCLE PARTS					
1-23	MSPR-A026JBE0	AB			Thermistor Spring
1-24	MSPR-A036JBE0	AB			Thermistor Spring
1-15	PSEL-E120JBEZ	AK			Side Cabinet R Seal
1-22	LHLD-B097JBFA	AK			Thermistor Holder
1-38	PSEL-E184JBEZ	AE			Condenser Seal A
1-39	PSEL-E185JBEZ	AE			Condenser Seal B
2-1	CCHS-B151JB1Z	BB			Base Pan Sub Assembly
2-2	GLEMA059JBPZ	AK			Base Stand
2-3	DVLV-B073JBKZ	AY			2Way Valve Unit
2-4	DVLV-B074JBKZ	BC			3Way Valve Unit [18]
2-4	DVLV-B087JBKZ	BF			3Way Valve Unit [24]
2-3-3	PDAi-A254JBPZ	AN			Flare Coupling Base
2-5	DVLV-B075JBKZ	BU			Reverse Valve Assembly
2-5-1	RCiL-A132JBZZ	AX			Coil
2-5-2	LX-BZA434JBEZ	AR			Special Screw
2-6	DVLV-B086JBKZ	BM			Expan.Valve Assembly
2-7	DCON-A580JBPZ	BQ			Condenser [18]
2-7	DCON-A587JBPZ	BM			Condenser [24]
2-12	GLEG-A157JBEZ	AK			Comp. Cushion Rubber
2-13	LX-NZA395JBEZ	AK			Nut 5
2-14	PCMPRA652JBEZ	DD			Compressor
2-15	PCOV-B633JBEZ	AE			Terminal Cover
2-16	PSEL-E047JBEZ	AE			Terminal Gasket
2-17	RMOTSA037JBZZ	BC			Coil
2-18	LX-NZA250JBEZ	AE			Flare Nut
2-19	PCAP-A075JBFZ	AC			Nut Bonnet
2-20	LX-NZA280JBEZ	AG			Flare Nut [18]
2-20	LX-NZA299JBEZ	AR			Flare Nut [24]
2-21	PCAP-A089JBEZ	AX			Nut Bonnet [18]
2-21	PCAP-A090JBEZ	AE			Nut Bonnet [24]
6-2	LX-BZA455JBEZ	AH			Special Screw
6-3	LX-NZA313JBEZ	AE			Special Nut
6-21	LBND-A097JBEZ	AE			Wire Fixing Band
6-22	LBND-A042JBE0	AC			Wire Fixing Band

[7] CONTROL BOX PARTS



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] CONTROL BOX PARTS					
3-1	LANG-A733JBWZ	AK			Terminal Angle
3-3	LHLD-B067JBEZ	AN			Washer
3-5	QTANZA072JBZZ	AR			Terminal Board
3-7	QTANZA071JBZZ	AV			Terminal Board
3-13	RNF--A001VBE0	AF			Ferrite Core
3-16	TLAB-E833JBRZ	AK			Label
3-17	DBOX-A087JBWZ	AZ			Control Box Assembly
3-19	DSGY-E129JBKZ	BT			Control Board Unit [18]
3-19	DSGY-E163JBKZ	BZ			Control Board Unit [24]
3-20	DSGY-E127JBKZ	BW			Power Transistor

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] CONTROL BOX PARTS					
3-21	DSGY-E030JBKZ	BR			PFC Control Board Uni
3-24	PRDAFA239JBEZ	BQ			Haet Sink
3-25	PSPA-A150JBZZ	AF			PWB Spacer
3-26	QW-iZA141JBZZ	AW			Comp. Cord (QM101(U,V,W) - COMP)
3-36	RFIL-A064JBE0	AF			Ferrite Core
3-37	RTRN-A300JBZZ	BK			Active Coil
3-38	LBNDKA151JBWZ	AM			Capacitor Clamp
3-39	LHLD-B096JBFA	AY			Heat Sink Holder
3-40	LHLDWA039JBEZ	AC			Wire H0Lder
3-41	LHLDWA040JBEZ	AC			Wire H0Lder
3-42	PSHE-A313JBEZ	AK			Protect Sheet
3-44	PSPA-A082JBE0	AB			Spacer
3-45	PSPA-A173JBEZ	AE			Pwb Spacer
3-50	RC-AZA046JBE0	BE			Electrolytic Cap.
3-51	RC-EZA250JBZZ	BG			Electrolytic Capa.
3-53	PCOV-B724JBWZ	AT			Control Box Cover
3-54	RH-HXA140JBZZ	BC			Thermistor Assembly
3-58	TLABCC720JBRZ	AK			Wiring Diagram
3-59	PSEL-E183JBEZ	AH			Cont. Box Cover Seal
3-61	PSEL-E136JBEZ	AK			Cont. Box Angle Seal
[8] OTHER OUTDOOR PARTS					
3-10	QW-VZG402JBZZ	AK			Lead Wire (TBN -T2)
3-11	QW-VZG403JBZZ	AK			Lead Wire (TBL -T1)
3-12	QW-VZG446JBZZ	AK			Lead Wire (TB -CN6)
3-14	QW-VZG438JBZZ	AK			Lead Wire (TBE -BOX)
3-27	QW-VZG499JBZZ	AN			Lead Wire (MRY1 OUT - DB1 AC1)
3-28	QW-VZG500JBZZ	AN			Lead Wire (T6 - DB1 AC2)
3-29	QW-VZG396JBZZ	AL			Lead Wire (PFCM (TNF) - C(-))
3-30	QW-VZG397JBZZ	AK			Lead Wire (C10(+)- IPM(TP))
3-31	QW-VZG398JBZZ	AK			Lead Wire (C10(-)- IPM(TN))
3-32	QW-VZG399JBZZ	AL			Lead Wire (PFCM (TPF) - C(+))
3-33	QW-VZG406JBZZ	AK			Lead Wire (CN14 - CN114)
3-34	QW-VZG407JBZZ	AK			Lead Wire (PFCM (TL1) - Coil)
3-35	QW-VZG408JBZZ	AK			Lead Wire (PFCM (TL2) - Coil)
3-46	QW-VZE603JBZZ	AP			Lead Wire (C9(+)- C10(+))
3-47	QW-VZE624JBZZ	AP			Lead Wire (T5 - MRY1)
3-48	QW-VZG213JBZZ	AK			Lead Wire (C9(-)- C10(-))
3-49	QW-VZG405JBZZ	AK			Lead Wire (T4 - BOX)
6-5	XCPS740P25000	AD			Tapping Screw
6-6	XBPS730P14JS0	AA			Tapping Screw
6-9	XBPS740P20J00	AF			Machine Screw
6-10	LX-BZA075JBE0	AA			Special Screw
6-11	XJTS740P10000	AC			Tap Tight Screw
6-12	XTPS730P12XS0	AF			Tapping Screw
6-14	XBPS740P08K00	AK			Machine Screw
6-15	PSEL-E136JBEZ	AK			Cont. Box Ang Seal
6-16	PSEL-E137JBEZ	AM			Cont. Box Cover Seal

[9] OUTDOOR PACKING PARTS

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[9] OUTDOOR PACKING PARTS					
7-1	CPADBA164JBKZ	AZ			Bottom Pad Assembly
7-2	CPADBA165JBKZ	AN			Packing Pad Assembly
7-3	SPAKCC840JBEZ	BB			Packing Case [18]
7-3	SPAKCC861JBEZ	BB			Packing Case [24]

■INDEX

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
【 C 】				
CCHS-B151JB1Z	6-2-1	BB		
CCOV-A283JBKZ	1-2-3	BB		
CCOV-A327JBKZ	1-1-21	AU		
CCYC-C523JBKZ	1-3-9	BU		
CCYC-C533JBKZ	1-3-9	BU		
CFIL-A087JBKZ	2-4-12	BB		
CHLD-A067JBK0	1-1-4	AL		
CKITTA133AKKZ	1-2-7	BM		
CMOT-A524JBKZ	1-1-1	BS		
CMOTLB426JBEZ	5-1-1	CA		
CPADBA164JBKZ	9-7-1	AZ		
CPADBA165JBKZ	9-7-2	AN		
CPiPCB413JBKZ	1-3-1	BN		
CPiPCB428JBKZ	1-3-1	BK		
CRMC-A797JBEZ	2-4-1	BL		
CSKR-A512JBKZ	5-1-16	BA		
【 D 】				
DBOX-A087JBWZ	7-3-17	AZ		
DCAB-A167JBKZ	5-1-17	BF		
DCHS-A761JBKZ	1-1-5	BM		
DCON-A580JBPZ	6-2-7	BQ		
DCON-A587JBPZ	6-2-7	BM		
DCOV-A207JBKZ	1-1-18	AF		
DCOV-A347JBKZ	5-1-36	AW		
DCOV-A349JBKZ	1-1-34	AL		
DCOV-A357JBKZ	1-1-22	AK		
DHLD-A010JBKZ	1-1-26	AK		
DHLD-A037JBKZ	1-4-3	AV		
DHLD-A049JBKZ	1-1-35	AL		
DPNL-A062JBKZ	1-1-27	BD		
DSGY-E030JBKZ	7-3-21	BR		
DSGY-E127JBKZ	7-3-20	BW		
DSGY-E129JBKZ	7-3-19	BT		
DSGY-E156JBKZ	1-2-10	BT		
DSGY-E160JBKZ	1-2-25	BT		
DSGY-E161JBKZ	1-2-10	BT		
DSGY-E163JBKZ	7-3-19	BZ		
DSRA-A339JBKZ	1-1-7	BF		
DVLV-B073JBKZ	6-2-3	AY		
DVLV-B074JBKZ	6-2-4	BC		
DVLV-B075JBKZ	6-2-5	BU		
DVLV-B086JBKZ	6-2-6	BM		
DVLV-B087JBKZ	6-2-4	BF		
DWAK-B002JBKZ	1-1-52	BB		
【 G 】				
GCAB-A408JBTA	5-1-7	AX		
GCAB-A409JBTA	5-1-5	BE		
GCAB-A410JBTA	5-1-17-1	BD		
GGADFA042JBFA	5-1-6	BH		
GLEG-A157JBEZ	6-2-12	AK		
GLEGMA059JBPZ	6-2-2	AK		
GPLTMA072JBTA	5-1-10	AZ		
GPLTMA075JBTA	5-1-12	BC		
【 J 】				
JHNDPA016JBFA	5-1-8	AE		
JHNDPA028JBFA	5-1-11	AK		
【 L 】				
LANG-A733JBWZ	7-3-1	AK		
LANG-A737JBPZ	5-1-20	AL		
LANGKA253JBPZ	5-1-2	AM		
LANGKA267JBPZ	5-1-3	AY		
LANGKA268JBPZ	5-1-4	AP		
LBND-A042JBE0	5-6-22	AC		
"	6-6-22	AC		
LBND-A046JBE0	5-1-21	AE		
LBND-A097JBEZ	6-6-21	AE		
LBNDKA151JBWZ	7-3-38	AM		
LHLD-A277JBF0	1-1-36	AD		
LHLD-A539JBFA	1-2-17	AE		
"	5-1-13	AE		
LHLD-B030JBFA	1-2-21	AL		
LHLD-B031JBFA	1-2-22	AP		
LHLD-B033JBFA	1-2-16	AK		
LHLD-B067JBEZ	7-3-3	AN		
LHLD-B070JBFZ	1-2-4	AK		
LHLD-B095JBFA	5-1-14	AK		
LHLD-B096JBFA	7-3-39	AY		
LHLD-B097JBFA	6-1-22	AK		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
LHLDWA039JBEZ	7-3-40	AC		
LHLDWA040JBEZ	7-3-41	AC		
LPFT-A134JBFZ	2-4-6	AF		
LPFT-A135JBFZ	2-4-7	AH		
LPLT-A058JBPZ	1-1-17	AC		
LX-BZA075JBE0	1-5-1	AA		
"	8-6-10	AA		
LX-BZA357JBEZ	2-4-4	AE		
LX-BZA434JBEZ	6-2-5-2	AR		
LX-BZA455JBEZ	6-6-2	AH		
LX-BZA461JBEZ	5-1-36-1	AH		
LX-NZA207JBEZ	2-4-5	AE		
LX-NZA250JBEZ	6-2-18	AE		
LX-NZA280JBEZ	6-2-20	AG		
LX-NZA299JBEZ	6-2-20	AR		
LX-NZA313JBEZ	6-6-3	AE		
LX-NZA378JBEZ	5-6-13	AK		
LX-NZA395JBEZ	6-2-13	AK		
【 M 】				
MJNTPA158JBFA	1-1-8	AL		
MJNTPA159JBFA	1-1-9	AL		
MJNTPA160JBFA	1-1-12	AL		
MLOV-A532JBFA	1-1-10	AL		
MLOV-A533JBFA	1-1-11	BB		
MSPR-A026JBE0	6-1-23	AB		
MSPR-A036JBE0	6-1-24	AB		
【 N 】				
NBRG-A026JBFA	1-1-14	AB		
NBRG-A057JBFA	1-1-13	AL		
NFANCA091JBEZ	1-1-6	BD		
NFANPA142JBFA	5-1-25	BE		
【 P 】				
PBOX-A537JBFA	1-2-2	AX		
PCAP-A075JBFZ	6-2-19	AC		
PCAP-A089JBEZ	6-2-21	AX		
PCAP-A090JBEZ	6-2-21	AE		
PCMPRA652JBEZ	6-2-14	DD		
PCOV-A300JBF0	1-2-24	AB		
PCOV-B581JBFA	1-1-21-1	AL		
PCOV-B583JBRA	1-1-21-3	AS		
PCOV-B584JBWZ	1-2-6	AP		
PCOV-B585JBFA	1-2-20	AL		
PCOV-B588JBWZ	1-2-23	AP		
PCOV-B593JBFZ	1-1-3	AP		
PCOV-B633JBEZ	6-2-15	AE		
PCOV-B724JBWZ	7-3-53	AT		
PCOV-B726JBWZ	5-1-36-2	AM		
PCOV-B739JBFA	5-1-18	AN		
PCOV-B740JBFA	5-1-36-3	AN		
PCOV-B747JBRA	1-1-21-2	AK		
PCOV-B754JBFA	1-1-59	AK		
PCOV-B772JBEZ	1-1-60	AK		
PDAi-A254JBPZ	6-2-3-3	AN		
PFILMA250JBEB	1-1-25	AN		
PHOS-A058JBEZ	1-1-16	AX		
PPLT-A666JBFZ	1-1-29	AV		
PPLT-A756JBFZ	1-1-28	AL		
PPLTNA120JBWZ	1-4-7	AZ		
PRDAFA239JBEZ	7-3-24	BQ		
PSEL-C051JBEZ	5-1-36-4	AE		
PSEL-E003JBEZ	1-1-55	AK		
PSEL-E004JBEZ	1-1-53	AL		
PSEL-E047JBEZ	6-2-16	AE		
PSEL-E087JBEZ	1-1-58	AH		
PSEL-E120JBEZ	5-1-15	AK		
"	6-1-15	AK		
PSEL-E129JBEZ	5-1-17-2	AK		
PSEL-E130JBEZ	5-1-17-3	AN		
PSEL-E131JBEZ	5-1-17-4	AK		
PSEL-E132JBEZ	5-1-5-1	AK		
PSEL-E135JBEZ	5-1-16-2	AK		
PSEL-E136JBEZ	7-3-61	AK		
"	8-6-15	AK		
PSEL-E137JBEZ	8-6-16	AM		
PSEL-E153JBEZ	5-1-17-5	AK		
PSEL-E180JBEZ	1-3-7	AG		
PSEL-E183JBEZ	7-3-59	AH		
PSEL-E184JBEZ	6-1-38	AE		
PSEL-E185JBEZ	6-1-39	AE		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
PSEL-E186JBEZ	5-1-4-1	AE		
PSEL-E199JBEZ	1-1-5-6	AH		
PSEN-A044JBKZ	1-3-2	AG		
PSEN-A053JBKZ	1-3-3	AN		
PSHE-A278JBEZ	1-1-21-4	AH		
PSHE-A313JBEZ	7-3-4-2	AK		
PSKR-A372JBPZ	5-1-16-1	AU		
PSPA-A082JBE0	7-3-4-4	AB		
PSPA-A150JBZZ	7-3-2-5	AF		
PSPA-A173JBEZ	7-3-4-5	AE		
PSPF-B161JBEZ	5-1-3-5	AY		
PSPF-B162JBEZ	5-1-3-7	AS		
PSPF-B173JBEZ	5-1-2-6	AZ		
PSPF-B174JBEZ	5-1-2-7	AX		
PVLV-A376JBEZ	1-3-5	AS		
PVLV-A379JBEZ	1-3-5	AT		
PVLV-A381JBEZ	1-3-4	AN		
【 Q 】				
QFS-iA001JBZZ	4-2-1	AH		
QSW-PA024JBZZ	4-2-1-9	AH		
QTANZA039JBZZ	1-2-1-3	AQ		
QTANZA071JBZZ	7-3-7	AV		
QTANZA072JBZZ	7-3-5	AR		
QW-iZA141JBZZ	7-3-2-6	AW		
QW-VZE603JBZZ	8-3-4-6	AP		
QW-VZE624JBZZ	8-3-4-7	AP		
QW-VZG168JBZZ	1-1-4-1	AP		
QW-VZG213JBZZ	8-3-4-8	AK		
QW-VZG396JBZZ	8-3-2-9	AL		
QW-VZG397JBZZ	8-3-3-0	AK		
QW-VZG398JBZZ	8-3-3-1	AK		
QW-VZG399JBZZ	8-3-3-2	AL		
QW-VZG402JBZZ	8-3-1-0	AK		
QW-VZG403JBZZ	8-3-1-1	AK		
QW-VZG405JBZZ	8-3-4-9	AK		
QW-VZG406JBZZ	8-3-3-3	AK		
QW-VZG407JBZZ	8-3-3-4	AK		
QW-VZG408JBZZ	8-3-3-5	AK		
QW-VZG438JBZZ	8-3-1-4	AK		
QW-VZG446JBZZ	8-3-1-2	AK		
QW-VZG499JBZZ	8-3-2-7	AN		
QW-VZG500JBZZ	8-3-2-8	AN		
【 R 】				
RC-AZA046JBE0	7-3-5-0	BE		
RC-EZA250JBZZ	7-3-5-1	BG		
RCiL-A132JBZZ	6-2-5-1	AX		
RFiL-A064JBE0	7-3-3-6	AF		
RH-HXA140JBZZ	7-3-5-4	BC		
RH-HXA148JBZZ	1-2-1-9	AX		
RH-VXA002JBZZ	4-2-3-0	AF		
RMOT-A192JBZZ	1-1-3-7	AZ		
RMOT-A193JBZZ	1-1-5-4	AZ		
RMOTSA037JBZZ	6-2-1-7	BC		
RNF--A001VBE0	7-3-1-3	AF		
RTRN-A300JBZZ	7-3-3-7	BK		
RTRNWA051JBZZ	4-2-3-1	BB		
【 S 】				
SPADBA480JBEZ	3-6-1	AP		
SPADBA481JBEZ	3-6-2	AP		
SPAKCC839JBEZ	3-6-3	BB		
SPAKCC840JBEZ	9-7-3	BB		
SPAKCC857JBEZ	3-6-3	BB		
SPAKCC861JBEZ	9-7-3	BB		
【 T 】				
TiNS-B246JBRZ	2-4-9	AK		
TiNS-B270JBRZ	2-4-9	AP		
TiNSEA639JBRZ	2-4-1-1	AN		
TLABCC718JBRZ	1-1-4-4	AK		
TLABCC720JBRZ	7-3-5-8	AK		
TLAB-E833JBRZ	7-3-1-6	AK		
TLABMA565JBRA	5-1-3-3	AQ		
TSPC-G721JBRA	1-1-4-3	AK		
TSPC-G722JBRZ	5-1-3-4	AK		
TSPC-G768JBRA	1-1-4-3	AK		
TSPC-G769JBRZ	5-1-3-4	AK		
【 U 】				
UBATUA027JBE0	2-4-2	AE		
【 X 】				
XBPS730P14JS0	8-6-6	AA		
XBPS740P08K00	8-6-1-4	AK		
XBPS740P20J00	8-6-9	AF		
XCPS740P25000	8-6-5	AD		

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
XJTS740P10000	8-6-1-1	AC		
XTPS730P12XS0	8-6-1-2	AF		
XTPS740P25000	1-5-2	AC		
XTTS745P30000	2-4-8	AC		

